

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
Norfolk Division

BIEDERMANN TECHNOLOGIES
GmbH & CO. KG,

Plaintiff,

v.

Case No. 2:18cv585

K2M, INC. and K2M GROUP
HOLDINGS, INC.,

Defendants.

OPINION AND ORDER

This matter is before the Court on cross-motions for summary judgment in the above referenced patent case.¹ After careful consideration of the briefs submitted by the parties, the Court **GRANTS IN PART** and **DENIES IN PART** each party's motion seeking summary judgment.

I. PROCEDURAL HISTORY

At issue in this case are multiple related patents held by plaintiff Biedermann Technologies GmbH & Co. KG, ("Biedermann" or "Plaintiff"): U.S. Patent No. 9,814,595 ("the '595 patent"), U.S. Patent No. 10,130,485 ("the '485 patent"), U.S. Patent No. 6,736,820 ("the '820 patent"), U.S. Patent No. 8,945,194 ("the '194 patent"), U.S. Patent No. 9,566,093 ("the '093 patent"), U.S.

¹ Several other motions are currently outstanding and will be addressed by separate order.

Patent No. 8,123,784 ("the '784 patent"), U.S. Patent No. 8,828,060 ("the '060 patent"), U.S. Patent No. 9,895,173 ("the '173 patent"), U.S. Patent No. 10,058,353 ("the '353 patent"), U.S. Patent No. 9,572,600 ("the '600 patent"), U.S. Patent No. 9,597,121 ("the '121 Patent"), and U.S. Patent No. 8,257,399 ("the '399 Patent"). All of the patents-in-suit relate to medical devices intended primarily for use in spinal surgery. This Court previously conducted a Markman hearing and issued an order construing eighteen disputed claim terms found in Biedermann's patents associated with the following medical devices: (1) "multi-walled placeholders" used to replace vertebrae or vertebral discs (among other applications); (2) "bone screws," also referred to as "pedicle screws," designed to pivot in at least one direction by an enlarged angle; (3) an "anchoring element" attached to a bone screw designed to connect to one or more "rods," some of which utilize a "square thread" screw to secure the rod(s); and (4) a bone anchoring device utilizing a moveable "pressure member."

Biedermann's patent infringement lawsuit against K2M, Inc. and K2M Group Holdings, Inc. (collectively, "K2M" or "Defendants") was filed in this Court on November 2, 2018, and Biedermann served the original complaint on November 6, 2018. Three days after service, while this case was still in its infancy, K2M was acquired by Stryker Corporation ("Stryker"), a competitor of Biedermann in the spinal implant/device industry. As revealed through the

parties' briefs and exhibits, Stryker and Biedermann have competed in such industry for many years and have been involved in prior litigation regarding patent rights. In fact, such prior litigation led to a still-in-force patent license agreement that includes a provision expressly barring Stryker from taking any steps to invalidate or otherwise challenge the validity or enforceability of certain specified Biedermann patents, to include the '820 patent. See ECF No. 314-1. The scope and effect of such agreement presents a key dispute on summary judgment.

II. STANDARD OF REVIEW

Federal Rule of Civil Procedure 56(a) provides that a district court shall grant summary judgment in favor of a movant if such party "shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). The mere existence of some alleged factual dispute between the parties "will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no genuine issue of material fact." Anderson v. Liberty Lobby Inc., 477 U.S. 242, 247-48 (1986). "A genuine question of material fact exists where, after reviewing the record as a whole, a court finds that a reasonable jury could return a verdict for the nonmoving party." Dulaney v. Packaging Corp. of Am., 673 F.3d 323, 330 (4th Cir. 2012).

Although the initial burden on summary judgment falls on the moving party, once a movant properly files evidence supporting summary judgment, the non-moving party may not rest upon the mere allegations of the pleadings, but instead must set forth specific facts in the form of exhibits and sworn statements illustrating a genuine issue for trial. Celotex Corp. v. Catrett, 477 U.S. 317, 322-24 (1986). "Because 'credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge,'" the Court must only evaluate the evidence to the extent necessary to determine whether there is "sufficient disagreement to require submission to a jury or whether [the evidence] is so one-sided that one party must prevail as a matter of law." McAirlaids, Inc. v. Kimberly-Clark Corp., 756 F.3d 307, 310 (4th Cir. 2014) (quoting Anderson, 477 U.S. at 251-52, 255). In making its determination, "the district court must 'view the evidence in the light most favorable to the' nonmoving party." Jacobs v. N.C. Admin. Off. of the Courts, 780 F.3d 562, 568 (4th Cir. 2015) (quoting Tolan v. Cotton, 572 U.S. 650, 657 (2014)).

When faced with cross-motions for summary judgment, each motion must be considered "separately on its own merits to determine whether either of the parties deserves judgment as a matter of law," and "all factual disputes and any competing, rational inferences" must be resolved "in the light most favorable

to the party opposing that motion." Defenders of Wildlife v. N.C. Dep't of Transp., 762 F.3d 374, 392 (4th Cir. 2014)) (internal quotation marks omitted).

III. K2M'S SUMMARY JUDGMENT MOTION

K2M seeks summary judgment on four grounds: (1) K2M's spinal implants/placeholders do not directly infringe on Biedermann's '595 and '485 patents; (2) Biedermann cannot establish infringement of the '595 and '485 patents under the doctrine of equivalents; (3) Biedermann's licensees' "failure to mark" their products with Biedermann patent numbers precludes pre-suit infringement damages as to multiple patents; and (4) Biedermann's "willful infringement" claim fails for lack of evidence.

A. Spinal Implants - Literal Infringement '595 and '485

K2M's summary judgment motion first asserts that Biedermann's '595 and '485 "placeholder patents" are only infringed by a "multi-walled" placeholder, and that based on this Court's Markman construction of the term "wall," as well as other related claim terms (most notably, "connectors"), no reasonable juror could conclude that K2M's products literally infringe on Biedermann's placeholder patents. For the reasons set forth below, Defendants' motion is **DENIED** as to literal infringement, notwithstanding the Court's viewpoint that K2M offers compelling arguments on this issue. Stated another way, while this Court has a clear picture as to how it would rule were it permitted to "weigh" the competing

evidence, the decision on how to define the line between two structural walls with connectors, and a single thick wall with various internal openings, appears to require judgment calls that cannot be made without weighing the evidence, meaning that the law permits only the factfinder to resolve this dispute. The Court is compelled to make such finding in light of the dueling expert opinions, notwithstanding Defendants' strong evidentiary showing that their device is not a "multi-walled" placeholder with at least one connecting portion, as required by the relevant Biedermann patents.

This Court's Markman Opinion interpreted the claim term "wall" as "necessarily refer[ring] to a three dimensional structure with a 'thickness' and not merely a 'wall surface.'" ECF No. 265, at 11. The Court's analysis noted that Biedermann's patents use terms such as "wall surface" or "jacket surface" when discussing a mere surface of a placeholder wall (rather than the structural wall itself), and that equating the term "wall" with a "wall surface" would be inconsistent in the context of the patents at issue, a context that Biedermann is itself responsible for creating. Id. at 13-15. Notably, while certainly not controlling, the titles of the patents at issue are "multi-walled placeholder," and the "background" sections acknowledge the fact that "placeholders, especially for vertebrae or vertebral discs are known," in the art, to include placeholders that have "a scaffold-

like structure in which the latticework extends over the full body or through the entire body of the implant." '485 1:20-45, ECF No. 14-15. Biedermann's patents explain that such lattice design is purportedly "difficult to manufacture" and has to "be adjusted and manufactured individually to suit every application case," with Biedermann's invention seeking to provide both ease of manufacturing and versatility in application by utilizing multi-walled placeholders, often consisting of multiple "tubular bodies" that are inserted inside each other and connected with various forms of "connectors" to space apart the multiple walls. Id. at 1:20-2:18. While it is the patent claims themselves, and not the "background," that controls, the relevant claims similarly require at last two structural walls (inner and outer) and at least one connecting portion.

Biedermann's position on summary judgement contends that a "multi-walled placeholder" with "connectors" that space the two or more walls apart can be constructed through 3D printing even if the placeholder appears at first blush to constitute a structure with a single "thick" wall.² When examining K2M's "Cascadia" placeholder products, Biedermann's expert contends that the "first wall" required by Biedermann's patents begins at the outer surface

² Advancements in manufacturing technology (3D printing) may result in "latticework" placeholders no longer being "difficult to manufacture" and may eliminate the concerns associated with adjustments or individual manufacturing to suit specific needs, which may reduce the need for a type of "modular system" involving multiple walls fixed together with connectors.

of the placeholder's wall and extends up through a first row of vertical holes, and the required "second wall" begins at the inner surface of the placeholder and extends up to a defined point (which similarly appears to be a row of vertical holes). See, e.g., ECF No. 369-3, at 31-34. Much, if not all, of the areas in between these at least two walls are identified by Biedermann's expert as "connectors." Id. Although Biedermann's expert conceded during his deposition that he was "not sure" whether a person skilled in the art would view K2M's Cascadia devices as "multi-walled" unless he or she first read Biedermann's patents, ECF No. 299-1, at 231, such equivocal concession goes to the weight of Biedermann's evidence, rather than wholly undercutting Biedermann's expert's opinion.

On the other side of the equation, K2M's expert makes a strong showing that the purportedly infringing Cascadia devices are not "multi-walled" placeholders, further contending that Biedermann's expert has arbitrarily identified two walls with connectors merely because it is necessary to prove literal infringement. K2M's expert acknowledges, however, that the line between a multi-walled structure with openings in between the walls, and a porous structure that would not be considered "multi-walled" is not clear.³ ECF No. 369-5, at 179-81.

³ To illustrate the Court's understanding of the parties' dispute, it appears that when enough material susceptible to being identified as a "connector" is added between two structures susceptible to being identified as separate

Having carefully reviewed the evidence provided by both parties, the Court has limited sympathy for Plaintiff's position on this issue, and in the Court's view, the proper resolution of this issue after weighing the evidence appears clear. However, the summary judgment standard precludes this Court from weighing the evidence, and the evidence offered by Plaintiff's expert is just enough in this Court's view to nudge this issue from being "so one-sided" that K2M must prevail as a matter of law, to an issue that must be decided by the jury. Notably, as recently reiterated by the Fourth Circuit:

[S]ummary judgment cannot be granted merely because the court believes that the movant will prevail if the action is tried on the merits. [Rather,] [t]he court may grant summary judgment only if it concludes that the evidence could not permit a reasonable jury to return a favorable verdict. Therefore, courts must . . . refrain from weighing the evidence or making credibility determinations. A court improperly weighs the evidence if it fails to credit evidence that contradicts its factual conclusions or fails to draw reasonable inferences in the light most favorable to the nonmoving party.

Sedar v. Reston Town Ctr. Prop., LLC, 988 F.3d 756, 761 (4th Cir. 2021) (emphasis added) (internal quotation marks and citations omitted).

This Court's finding that material disputed facts exist, supported by evidence on both sides, is not predicated on the

walls, the device may lose its character as a "multi-walled" device with connectors, and becomes a single "thick" walled device, or a scaffold-like or porous device with internal openings.

manufacturing method used by K2M to produce the allegedly infringing placeholders (3D printing), as K2M's expert acknowledges that a 3D printer can be used to create a "multi-walled" placeholder with "sintered" connectors, to include a placeholder consistent with the exemplary illustrations in Biedermann's patents. ECF No. 369-5, at 160-61, 172-73. However, the converse conclusion is likewise true—just because one can create an infringing multi-walled placeholder with sintered connectors using a 3D printer does not mean that a thick-walled placeholder manufactured using a 3D printer (such as one with a scaffold-like or lattice-like structure extending through the entire body of the placeholder) is in fact "multi-walled." Notably, Biedermann's patent covers "multi-walled" placeholders with "connectors" that separate at least a first wall from a second wall, and Biedermann must ultimately prove that the individual components required by Biedermann's patents are present in K2M's Cascadia devices. While convincing a factfinder that K2M's products are in fact "multi-walled" appears to be an uphill battle, the Court cannot conclude on this record that no reasonable juror could adopt Biedermann's expert's viewpoint and find in Biedermann's favor on this issue. Accordingly, Defendants' summary judgment motion on this issue is **DENIED** as to literal infringement.

B. Spinal Implants - DOE Infringement '595 and '485

Biedermann's contentions in this patent infringement litigation have primarily been limited to literal infringement, with Biedermann apparently informing K2M early in the litigation that it was not proceeding under an infringement theory under the doctrine of equivalents ("DOE").⁴ A DOE theory asserting that there are "insubstantial differences" between a patent-in-suit and an allegedly infringing device can in some circumstances be defeated by the alleged infringer (even if a jury finds equivalence) through demonstrating that such patent would "encompass or 'ensnare' the prior art" if the patent's applicability to equivalents is stretched as far as the plaintiff asserts. G. David Jang, M.D. v. Bos. Sci. Corp., 872 F.3d 1275, 1285 (Fed. Cir. 2017). Such a defense, of course, can only be advanced if the alleged infringer has the opportunity to research and evaluate the relevant prior art in order to mount a defense to the DOE claim.

Here, Biedermann waited until late in the discovery period to change course and inform K2M that it was pursuing numerous new DOE theories of infringement. Whether Biedermann waited too long to notify K2M has already been litigated in this case. Specifically,

⁴ Biedermann first announced its DOE claims less than a month before the close of discovery and over seven months after Biedermann purportedly assured K2M that it did not intend to rely on the doctrine of equivalents in this case. ECF No. 209, at 2.

K2M filed a motion to strike Biedermann's tardily asserted DOE theories, ECF No. 163, the matter was briefed, and a telephonic hearing was conducted by United States Magistrate Judge Douglas Miller, ECF No. 206. Near the conclusion of the telephonic hearing, Judge Miller indicated that he was "concerned about the timing of the disclosure, but if it's been fully vetted by both experts, [he was] not inclined to strike it." ECF No. 207, at 62. Judge Miller therefore instructed the parties to submit copies of their "expert opinions on DOE, both the original opinion that was offered by [Plaintiff's] expert . . . and whatever [Defendants'] expert said in response to that DOE position." Id. K2M's attorney responded by further voicing his concern about the prejudice that K2M will suffer because of Biedermann's late disclosure, and Judge Miller repeated that he wanted "to see what [Defendants'] expert has said in response to [Plaintiff's] DOE contentions" as such information would help the Court formulate its understanding of the issue. Id. at 63-64.

After receiving and reviewing the parties' submissions, Judge Miller issued a written Order denying K2M's motion to strike the newly advanced DOE assertions. ECF No. 209, at 5-6. In such Order, Judge Miller indicated that he did "not find prejudice sufficient to exclude the late claims." Id. at 6 (emphasis added). Judge Miller noted that Plaintiff's DOE contentions "were asserted prior to opening expert reports," that they "affect only a few

claims," and that "K2M's opposition expert has already identified and addressed the limited evidence relied upon in the opening expert reports to support the new theories and thoroughly responded to them."⁵ Id. (emphasis added).

Notwithstanding such ruling, in the pending summary judgment briefs, the parties continue to dispute whether Biedermann timely advanced DOE claims associated with the placeholder patents. Biedermann appears to contend that it has properly advanced a DOE theory as to all relevant terms of the placeholder patents, whereas K2M contends that no DOE claims associated with the placeholder patents were raised in Biedermann's opening expert reports, or responded to in K2M's rebuttal report, other than a DOE argument involving the "diamond-shaped opening" limitation required by Claim 14 of the '485 patent. Because Judge Miller's ruling was not made on a patent by patent basis, the parties' summary judgment dispute require this Court to reassess whether the DOE claims associated with the placeholder patent are properly before the Court.

While the primary focus of the "prejudice" re-evaluation of this dispute should be on whether Plaintiff's opening expert report put K2M's expert on notice of Biedermann's new DOE theories (and not whether K2M's expert fully responded to such new claims), it

⁵ Plaintiff's counsel submitted copies of the relevant expert reports to Judge Miller with a cover letter that expressly identifies the pages of the expert report that purportedly address DOE claims.

is clear that K2M's expert reasonably interpreted Plaintiff's Cascadia DOE claim as being limited to the "diamond-shaped" opening issue, as he expressly stated in the relevant section of the responsive report that no other DOE claim was being made by Biedermann with respect to the '485 patent. Cf. 303-1 ¶¶ 82, 87, 92, 117 (highlighting the absence of DOE claims on a term-by-term basis as to the '595 patent).⁶ Such interpretation is textually sound, as the relevant section of Biedermann's opening expert report: (1) begins by suggesting that the section that follows is a literal infringement analysis; and (2) applies K2M's proposed claim construction as to multiple patent terms, but only references achieving "substantially the same function . . . in substantially the same way" (which is a DOE theory) as to the diamond-shaped opening requirement. ECF No. 369-3, at 57-58. No other expert analysis in Biedermann's opening expert report suggests that Biedermann is pursuing a DOE claim associated with the placeholder patents, with the arguable exception of a broadly phrased conclusion shortly after the diamond-shaped opening

⁶ The ECF document cited above is only an excerpt from K2M's expert's report, with the cited paragraphs addressing the '595 patent, not the '485 patent. However, the complete report was submitted to Judge Miller so that he could evaluate K2M's claimed prejudice, and the complete K2M report expressly states at paragraph 182: "With the exception of the 'diamond-shaped' limitation, [Biedermann's expert] does not argue that any claimed element of claim 14 [of the '485 patent] is present in Cascadia under the doctrine of equivalents if literal infringement is not found." Biedermann's expert's reply report does not directly dispute such characterization of Biedermann's opening report and appears to respond in support of a DOE claim only as to the "diamond-shaped" opening limitation. ECF No. 369-3, at 122.

analysis that states: "Therefore, even under K2M's construction of the disputed claim terms, K2M's CASCADIA Device contains each and every element of Claim 14 of the '485 Patent under the doctrine of equivalents." Id. at 58 (emphasis added). Such broad conclusion, however, is not preceded by any supporting DOE analysis outside of the diamond-shaped opening requirement. Moreover, as noted herein in footnote 6, after K2M's expert limited his DOE response to the "diamond-shaped" opening issue and expressly stated that no other DOE claims were being advanced by Biedermann, Biedermann's expert's reply did not outline any additional DOE claims as to the '485 patent. Id. at 122.

It was against this backdrop, that Judge Miller noted both that there were "only a few" DOE claims across all of the patents-in-suit and that "K2M's opposition expert has already identified and addressed the limited evidence relied upon in the opening expert reports to support the new theories and thoroughly responded to them." ECF No. 209, at 6 (emphasis added). Accordingly, the Court finds that: (1) to the extent that Biedermann now seeks to advance a DOE claim with respect to the '485 patent other than the "diamond-shaped" opening requirement, such claims were not the claims that Judge Miller concluded survived K2M's motion to strike; and (2) because such claims were not stated with any reasonable clarity in Biedermann's opening expert reports, nor were they mentioned in Biedermann's reply report, and because such claims

were raised very late in discovery after Biedermann had previously indicated that it was not pursuing DOE claims, the factors outlined in Southern States Rack & Fixture, Inc. v. Sherwin-Williams Co., 318 F.3d 592, 595-97 (4th Cir. 2003) support K2M's position on this issue. Because K2M has demonstrated the prejudice alluded to by Judge Miller with respect to unarticulated DOE claims, which were neither effectively raised by Biedermann's expert or "thoroughly" responded to by K2M's expert, Biedermann may not rely on such tardy claims, and consistent with Judge Miller's comments, such claims are appropriately struck as a discovery sanction pursuant to Rule 37(c).⁷

As to the '595 patent, this Court easily concludes that the tardy DOE claims that were raised by Biedermann's expert for the first time in a "reply report" (such as a discussion about the scope of the term "wall" as claimed in '595 Claim 1, ECF No. 369-3, at 112-13) were also not the claims that Judge Miller concluded survived K2M's motion to strike.⁸ Similarly, to the extent that

⁷ A review of the prior litigation of this same issue, as well as a review of the current filings, does not suggest that the late timing of such disclosure was substantially justified or that such late disclosure was harmless. Southern States, 318 F.3d at 596. To the contrary, Biedermann plainly should have raised its DOE theories in its opening expert report.

⁸ Biedermann's amended interrogatory responses, dated December 22, 2019, expressly state that K2M's construction of the word "wall" purportedly results in infringement of fourteen different claims of the '485 and '595 patents under the doctrine of equivalents. ECF No. 298-2, at 12-13. However, Biedermann's subsequent expert report, the report on which Judge Miller relied to determine whether K2M was "prejudiced" by Biedermann's late disclosure of this theory of infringement, did not mention the doctrine of equivalents with respect to the '595 patent, and as discussed above, analyzed

Biedermann now argues that it was appropriate for its expert to supplement these "reply report" arguments after this Court issued its Markman ruling construing the term "wall," the Court finds that the nature of the Markman ruling in this case does not breathe life into tardy DOE claims for the '595 patent that were not raised by Plaintiff's expert until a reply report. Notably, Plaintiff's expert acknowledges that the Court's construction of "wall" was largely consistent with the analysis in his opening report and does not change his opinions about literal infringement. ECF No. 369-3, at 4-7. Moreover, Plaintiff's expert already analyzed K2M's proposed construction of "wall" in his opening report and did not assert a DOE claim as to such claim term. The Court's construction of "wall" was similar to K2M's construction, but did not include an unnecessary requirement about the number of surfaces, a position that appears largely consistent with Plaintiff's expert's comments in his reports predating this Court's Markman ruling. Accordingly, there is no apparent basis to suggest that the Court's Markman construction "prompted" a previously unadvanced DOE theory.

such alternative theory of infringement only with respect to the "diamond-shaped opening" requirement of Claim 14 of the '485 patent. Accordingly, as with various other discovery disputes in this case that were characterized by Judge Miller as ongoing "gamesmanship," this issue appears to be an example of the perils of such approach, and Biedermann will not be permitted to rely on late disclosures raised for the first time in a reply expert report or supplement to the reply-the prejudice to K2M is obvious as to any reply/supplement DOE claims. See Southern States, 318 F.3d at 595-97.

Accordingly, the Court **GRANTS** summary judgment to K2M to the extent it asserts that there are no validly advanced DOE claims with respect to the '485 and '595 patents, with the exception of the "diamond-shaped opening" requirement of Claim 14 of the '485 patent. The Court notes that the late timing of Biedermann's DOE claims, made on December 22, 2019, is arguably consistent with the gamesmanship engaged in by both parties in this case, with nothing suggesting that the timing of Biedermann's disclosures were due to an unintentional oversight or "mistake."

C. Marking - Damages

K2M seeks summary judgment on the issue of pre-suit damages, arguing that Biedermann has failed to produce evidence showing that multiple products sold by Biedermann or its licensees were "marked" with relevant Biedermann patents in order to put K2M on "notice" of the patented technology. The parties do not dispute the applicable legal standard: "Pursuant to 35 U.S.C. § 287(a), a patentee who makes or sells a patented article must mark his articles or notify infringers of his patent in order to recover [pre-suit] damages." Arctic Cat Inc. v. Bombardier Recreational Prod. Inc., 876 F.3d 1350, 1365 (Fed. Cir. 2017). If the patentee does not mark or notify the alleged infringer prior to filing suit, no damages can be recovered for pre-suit sales of the infringing products. Id. at 1366. Because § 287 is "a limitation on damages, and not an affirmative defense," it is the patentee that "bears

the burden of pleading and proving [that it] complied with § 287(a)'s marking requirement." Id. A patent holder's licensees "must also comply with § 287"; however, because "it may be difficult for a patentee to ensure his licensees' compliance with the marking provisions," a patent holder may prevail if it can establish that it "made reasonable efforts to ensure [a third party's] compliance with the marking requirements." Id. The Federal Circuit has expressly held that the marking statute "serves three related purposes: (1) helping to avoid innocent infringement; (2) encouraging patentees to give public notice that the article is patented; and (3) aiding the public to identify whether an article is patented." Id. While patent infringement "is a strict liability tort," a patentee that "permits the sale of unmarked, patented articles misleads others into believing they are free to make and sell an article actually covered by patent." Id. (emphasis added).

When applying the marking statute in the context of patent litigation, district courts were previously split on the litigants' respective burdens. Id. at 1367. However, in Arctic Cat, the Federal Circuit established that the alleged infringer, here K2M, must only "articulate the products it believes are unmarked 'patented articles,'" and that it is then the patent holder's "burden to prove the products identified do not practice the patented invention." Id. at 1368. K2M's initial burden is

therefore a "burden of production, not one of persuasion or proof," and such burden of production has been expressly described by the Federal Circuit as a "low bar" that is in place only to put "the patentee on notice" and limit the "universe of products for which it would have to establish compliance" in order to avoid a "large scale fishing expedition and gamesmanship." Id.

Turning to the pending allegations on summary judgment, both parties have made concessions and/or withdrawn arguments in their respective summary judgment responsive and reply briefs. First, Biedermann narrowed the dispute regarding the patents at issue as it: (1) "does not challenge K2M's marking contention for the '093 patent"; and (2) indicates that "K2M's marking arguments are moot for the '194, '060, and '173 patents, which Biedermann has already agreed not to pursue as part of its case narrowing." ECF No. 368, at 21 n.7 (emphasis added). Biedermann indicates that the outstanding marking disputes involve the '784 "undercut" patent, the '399 "two lines of contact" patent, and the '820 "favored angle" patent.

Second, K2M expressly narrowed its summary judgment motion in its reply brief to the '093 favored angle patent that Biedermann concedes was not marked, the '784 undercut patent, and the '399 two lines of contact patent. ECF No. 383, at 7-8. K2M also narrows its motion in that it: (1) no longer pursues summary judgment as to failure to mark the "MOSS VRS" product; (2) limits

its summary judgment motion as to the failure to mark the "MOSS 100" product to only the '784 patent; and (3) limits the list of DePuy products that purportedly practice the '784 patent to the "Summit, Expedium, and Mountaineer" screws. Id. at 7-8, 11. This Court accepts such limitations/narrowing and addresses the outstanding issues below.

1. '093 "Favored Angle" Patent

As to the conceded '093 patent, K2M's summary judgment motion is **GRANTED** with respect to K2M's contention that "DePuy's Expedium, Viper, Summit and Mountaineer screws were not marked for the . . . '093 favored angled patent[]." ECF No. 297, at 23; see ECF No. 368 at 21 n.1 ("Biedermann does not challenge K2M's marking contentions for the '093 patent.").

2. '784 "Undercut" Patent

a. Mountaineer, Summit & Expedium Screws (DePuy)

K2M's opening summary judgment brief asserts that Biedermann licensed multiple patents to DePuy, and that DePuy failed to mark multiple products with, among other patents, the '784 "undercut" patent. ECF No. 297, Statement of Undisputed Facts ("SUF") ¶¶ 18-25. Biedermann offers various objections to portions of K2M's allegations, advances broad challenges to the timeliness of K2M's arguments, and otherwise challenges K2M's factual statements without offering any counter-evidence suggesting that the Mountaineer, Summit, or Expedium screws either: (1) did not

practice the '784 patent; (2) were not sold in the United States between 2014 and 2018 (prior to the filing of this lawsuit); or (3) were in fact properly marked with the '784 patent. ECF No. 368, Statement of Material Facts ("SMF") ¶¶ 18-25. Similarly, the argument section of Biedermann's opposition brief fails to advance such arguments, instead offering no response whatsoever to K2M's claim that it is entitled to summary judgment as to the failure to mark these three products with the '784 patent. Because K2M has carried its limited burden of production under Arctic Cat, and because Biedermann has failed to highlight evidence on which a reasonable juror could conclude that such products did not practice the relevant patents, were not sold in the United States between 2014-2018, or were marked with the relevant patents (or were not marked by licensees in contravention of Biedermann's "reasonable efforts" to ensure marking), summary judgment is **GRANTED** to K2M as to this marking claim.

b. MOSS 100 (Biedermann Motech)

K2M's opening summary judgment brief asserts that Biedermann also licensed multiple patents to Motech, a related Biedermann entity, and that Motech's MOSS 100 product and MOSS VRS product practiced, but were not marked with, one or more of Biedermann's patents. ECF No. 297, SUF ¶¶ 26-29. As noted above, K2M's reply brief withdraws its summary judgment claim as to the MOSS VRS

product and limits its claim as to the MOSS 100 product to failure to mark with the '784 patent. ECF No. 383, at 7-8.

Biedermann's responsive facts squarely challenge the timeliness of K2M's Motech claims and K2M's suggestion that Biedermann is responsible for the late timing of such claims, and further contend that Biedermann has not had an opportunity to respond to such untimely contentions. ECF No. 368, SMF ¶¶ 26-29. Biedermann also offers a substantive response as to whether the MOSS 100 and/or MOSS VRS product practiced the '399 patent during the relevant time period, although such arguments are now moot in light of K2M's limitation of its summary judgment claim to the MOSS 100 and the '784 patent. ECF No. 368, SMF ¶ 28; ECF No. 369-3, at 14. Biedermann does not advance counter facts contending that the MOSS 100 product did not practice the '784 patent during the relevant timeframe, nor does it adequately explain why K2M's questions on this issue during the deposition of Lutz Biedermann ("Mr. Biedermann") were insufficient to put Biedermann on notice of such marking contention no later than January of 2020. ECF No. 301-1, at 184-86; see ECF No. 349, at 10 (finding that a similar line of questioning during Mr. Biedermann's January 22, 2020 deposition was "sufficient to place his company and its attorneys on notice that K2M reasonably believed" that the products being discussed practiced the patents at issue). Biedermann does assert, however, that K2M has failed to clear the "low bar" required to

carry its burden of production under Arctic Cat. ECF No. 368, at 23. In response, K2M highlights at least some evidence suggesting that Biedermann failed to timely disclose its United States license with Motech until after summary judgment briefing began, ECF No. 301-1, at 191-92; ECF No. 383, at 17 (citing ECF No. 369-12; ECF No. 387-3, -4), and even assuming that such late disclosure was inadvertent, it undercuts, at least to some degree, Biedermann's contention that K2M's '784 marking claim as to the MOSS 100 is untimely.

As previously referenced, it appears that the discovery "gamesmanship" continues between the parties in this complex case, with the Court discouraged by the apparent resources the parties have consumed pointing fingers and avoiding responses to what at times appear to be straightforward discovery requests. As with prior discovery disputes, the aggressive procedural position taken by both parties during this case can at times leave one side exposed to a merits-based ruling for which no defense is offered. On this issue, Biedermann has not filed a motion to strike this marking claim, and the record reveals that Biedermann has both been on notice of such marking defense (which is associated with a Biedermann Motech product) for some time and may have contributed to K2M's failure to fully develop this marking defense at an earlier time. Biedermann's procedural challenge advanced through a counter statement of facts in a summary judgment motion is

therefore rejected for the same reasons Judge Miller rejected Biedermann's previous motion to strike similar marking defenses associated with Biedermann products, ECF No. 349, at 10, to include the fact that the deposition questions of Mr. Biedermann addressed specifically identified products (including the Motech MOSS 100 and MOSS VRS) and thus was not a "large scale fishing expedition," Arctic Cat, 876 F.3d at 1368, but was instead sufficiently targeted questioning about Biedermann products based on licenses that had been produced (and another that would later be produced) to K2M.

Because K2M carried its limited burden of production under Arctic Cat, and because Biedermann has failed to highlight responsive evidence on which a reasonable juror could conclude that the MOSS 100 product did not practice the '784 patent, was not sold in the United States during 2017 and 2018, ECF No. 297, SUF ¶ 27, or that it was marked with such patent, summary judgment is **GRANTED** to K2M as to this marking claim.

3. '399 "Two Lines of Contact" Patent - (DePuy Synapse)

It appears to be undisputed that DePuy's "Synapse" product was identified as a licensed product in a 2012 agreement between Biedermann and DePuy. ECF No. 297, SUF ¶ 22; ECF No. 368, SMF ¶ 22. However, K2M's "Statement of Undisputed Facts" does not assert that Synapse was sold in the United States during the relevant period or that Synapse practiced the '399 patent but was

not marked with such patent. See ECF No. 297, SUF ¶ 25.⁹ The argument section of K2M's brief asserts that Synapse was not marked for the '399 patent and was one of many DePuy products sold between 2012 and 2018, but it makes no reference to Synapse practicing the '399 patent. ECF No. 297, at 23. To the extent that K2M adequately and accurately asserts that it is "undisputed" that Synapse was not marked with the '399 patent (because no relevant products were purportedly marked with Biedermann patents other than the '820 patent), K2M fails at this time to demonstrate that it timely satisfied the low bar of Arctic Cat through its summary judgment motion or earlier discovery communications, and thus has not triggered Biedermann's obligation to present counter facts at the summary judgment stage demonstrating that Synapse was properly marked or did not need to be marked because it does not practice the '399 patent.

While K2M's burden to satisfy Arctic Cat is not "a high bar," K2M's incomplete allegations do not meet such standard at the summary judgment stage as to Synapse. See Pavo Sols. LLC v. Kingston Tech. Co., No. 8:14cv1352, 2019 WL 4390573, at *2 (C.D. Cal. June 26, 2019) ("While Kingston's burden is low, and it need

⁹ It appears that text in ¶ 25 of K2M's SUF was inadvertently deleted as the second sentence of such paragraph is a fragment. The evidence cited at the conclusion of such sentence fragment appears to support a claim that Synapse was sold during the relevant timeframe, ECF No. 299-4, at 29-31, and includes technical drawings that conceivably indicate that Synapse practices the '399 patent, ECF No. 300-10.

not conclusively establish that identified products were sold or offered for sale in the United States, it must at least put Pavo 'on notice that he or his authorized licensees sold specific unmarked products which the alleged infringer believes practice the patent.'" (quoting Arctic Cat, 876 F.3d at 1368)). To be clear, the Court does not find that an expert opinion is required to satisfy Arctic Cat, but rather, that K2M's opening summary judgment brief, which addressed a myriad of products and patents over the course of a limited number of paragraphs of factual allegations, was not sufficiently clear as to Synapse and the '399 patent to trigger Biedermann's obligation to produce admissible counter evidence, to potentially include expert opinions or sworn declarations.¹⁰

Moreover, even if K2M's opening summary judgment brief satisfied the Arctic Cat standard as to Synapse, the timing of K2M's filing (dated May 1, 2020), when considered in conjunction with the timing of Judge Miller's related rulings (oral ruling issued May 6, 2020, written ruling issued May 14, 2020) and the timing of Biedermann's opposition summary judgment brief (May 15, 2020), counsels against granting K2M's motion as a matter of law

¹⁰ K2M's "best" evidence on this issue as presented in its opening summary judgment brief was its supplemental expert report concluding that Synapse practices the '399 patent. ECF No 300-9. However, because Magistrate Judge Miller did not permit the filing of such supplemental report, it offers no evidentiary basis in support of K2M's marking claim. Cf. ECF No. 383, at 8 (acknowledging that K2M "withdraws" such exhibit).

because Judge Miller's ruling at least suggested that Biedermann did not have an obligation to respond to K2M's Synapse claim. Cf. Freeny v. Fossil Grp., Inc., No. 2:18cv49, 2019 WL 8688587, at *3 (E.D. Tex. July 24, 2019) (reflecting the magistrate judge's recommendation that the defendant "failed to meet its initial burden of production to identify specific products that were allegedly made or sold unmarked in non-compliance with § 287(a)" when the defendant waited "until its rebuttal expert report to identify specific products that it believed should have been marked," and explaining that while the defendant "may bear a low burden of production . . . it is a burden that nonetheless must be met"); Realtime Data, LLC v. Echostar Corp., No. 6:17cv84, ECF No. 247, at 8-10 (E.D. Tex. Oct. 16, 2018) (slip op.) (denying the defendants' motion for partial summary judgment seeking to limit damages as to two groups of licensed products because the defendants had a burden to "actually produce some notice of what products Defendants believe require marking," and while the defendants "identified other specific products in response to Plaintiff's Interrogatory," they did not identify two of the groups of products for which partial summary judgment was sought). It is likewise unclear from the summary judgment record whether Biedermann had an adequate opportunity to prepare and submit responsive admissible evidence in light of the timing of the resolution of the associated discovery dispute.

Based on K2M's failure to carry its burden under Arctic Cat at the summary judgment stage, its summary judgment motion as to the Synapse marking claim is **DENIED**. Whether K2M can raise this marking claim at trial, or whether it is waived because it was not timely raised, is a matter that must be independently briefed after the parties have had the opportunity to conduct/resume settlement negotiations. Notably, Judge Miller's written ruling on this issue, which was subsequently upheld by this Court, memorialized Judge Miller's oral finding made at the conclusion of the hearing on Biedermann's motion to strike K2M's supplemental expert report. As Judge Miller indicated on the record, his decision was limited to denying K2M's motion to submit the supplemental expert report, with Judge Miller further clarifying that he made no finding as to whether K2M could still advance a marking defense at trial based on the otherwise admissible evidence associated with the '399 patent. ECF No. 325, at 76.

D. Damages - Willful Infringement

K2M's' final summary judgment claim asserts that no reasonable jury could conclude that K2M's pre-suit conduct, or post-suit conduct, constitutes "willful" infringement, an issue relevant to whether, in the event that Biedermann proves infringement, "the court may increase the damages up to three times the amount found or assessed" by the jury. 35 U.S.C. § 284. As argued by Biedermann, whether infringement is willful is a

"classic[] jury question of intent." WBIP, LLC v. Kohler Co., 829 F.3d 1317, 1341 (Fed. Cir. 2016); see Exmark Mfg. Co. v. Briggs & Stratton Power Prods. Grp., LLC, 879 F.3d 1332, 1353 (Fed. Cir. 2018). However, like any other fact-intensive issue, such matter can be appropriately resolved by the Court on summary judgment when an alleged infringer demonstrates an absence of evidence on which a reasonable jury could make a finding of willfulness. Additionally, a recitation of the legal test governing § 284 damages is incomplete without highlighting that "an award of enhanced damages does not necessarily flow from a [jury's] willfulness finding." Presidio Components, Inc. v. Am. Tech. Ceramics Corp., 875 F.3d 1369, 1382 (Fed. Cir. 2017). Rather, after the jury finds willful infringement, it is the Court that determines whether damages should be increased under § 284 based on "sufficiently egregious" misconduct. Id.; see Eko Brands, LLC v. Adrian Rivera Maynez Enter., Inc., 946 F.3d 1367, 1378 (Fed. Cir. 2020).

The legal test for determining willful infringement and the subsequent award of § 284 damages has evolved over time, with the current standard established by the United States Supreme Court in Halo Electronics, Inc. v. Pulse Electronics, Inc., 136 S. Ct. 1923 (2016). In Halo, the Supreme Court rejected the Federal Circuit's then-in-place categorial requirements necessary to support a finding of willfulness (as outlined in In re Seagate Technology,

LLC, 497 F.3d 1360, 1374 (Fed. Cir. 2007) (en banc) and related cases), "eschew[ing] any rigid formula for awarding enhanced damages under § 284" in favor of a broad rule that "commits the determination whether enhanced damages are appropriate to the discretion of the district court." Halo, 136 S. Ct. at 1934 (internal quotation marks omitted).

1. Pre-suit Conduct

The primary dispute regarding willfulness briefed by the parties involves whether a reasonable juror could find or infer from the evidence highlighted by Biedermann that K2M was "on notice" of the patents-in-suit prior to the filing of the instant lawsuit. See WBIP, LLC, 829 F.3d at 1341 ("Knowledge of the patent alleged to be willfully infringed continues to be a prerequisite to enhanced damages." (citing Halo, 136 S. Ct. at 1932-33)); Halo, 136 S. Ct. at 1933 ("[C]ulpability is generally measured against the knowledge of the actor at the time of the challenged conduct.").¹¹ It is undisputed for purposes of summary judgment that Biedermann never notified K2M of its patents or of any

¹¹ Even if pre-suit knowledge of a patent is not categorically required in every circumstance, WCM Indus., Inc. v. IPS Corp., 721 F. App'x 959, 970 (Fed. Cir. 2018) (unpublished), to include situations where subjective willfulness is proven through willful blindness and demonstrating "that the defendant acted despite a risk of infringement that was . . . 'so obvious that it should have been known to the accused infringer,'" Arctic Cat, 876 F.3d at 1371 (quoting Halo, 136 S. Ct. at 1930), here, Biedermann does not point to evidence supporting a reasonable inference of willful blindness associated with specific products/patents (with the potential exception of the '093 patent) nor does it point to evidence suggesting an "obvious" risk of infringement of any relevant patent that should have been known to K2M.

potential infringement even though Mr. Biedermann believed that K2M was potentially infringing Biedermann's patents for some time prior to filing suit.¹² See, e.g., ECF No. 301-1, at 377-84. K2M's summary judgment brief largely carries its initial burden to demonstrate an absence of admissible facts supporting willful infringement, thus requiring Biedermann to highlight evidence on which a jury could return a verdict in its favor on this damages theory.

The majority of Biedermann's evidence purporting to establish that K2M had pre-suit knowledge of Biedermann's patents consists of brief excerpts from depositions revealing that certain K2M employees acknowledged that they had a minimal degree of general knowledge of Biedermann as a competitor in the field (to include familiarity as remote as having met Mr. Biedermann years earlier), or had some general familiarity with Biedermann's spinal products or the fact that Biedermann had patents and/or licensees in the field.¹³ See ECF No. 387-5 to -10. However, as highlighted by

¹² The parties dispute the admissibility of a document that K2M cites for the purpose of establishing that Biedermann was seeking a "strategic" opportunity to pursue infringement claims against K2M several years before suit was filed. ECF No. 301-4, at 118. Even if admissible, the Court agrees with Biedermann that Biedermann's past motivations are not directly relevant to determining whether K2M had other forms of pre-suit "notice" of the patents-in-suit, although any decision by Biedermann to delay notice to K2M (for whatever reason) may later become relevant context to the extent Biedermann seeks to portray itself as a party injured by the egregious conduct of its business rival.

¹³ As previously discussed, at least some of these licensed products were not marked.

K2M, several of these witnesses made very clear statements indicating their lack of knowledge of any of Biedermann's patents, and it is clear that Biedermann's efforts to draw favorable inferences from such testimony stretch beyond plausibility and into the realm of speculation. Illustrating such point, Biedermann goes so far as to argue that because a Stryker executive familiar with Biedermann's patents had some discussions with K2M about K2M's products prior to the acquisition of K2M, the Stryker executive's knowledge is imputable to K2M, a separate corporate entity. Notably, Biedermann offers nothing but pure speculation that such Stryker executive's "interactions" with K2M about K2M's spinal products involved any discussion of Biedermann's patents, thus clearly failing to support Biedermann's unsupported claim that such communications are "strong evidence of K2M's willful infringement." ECF No. 368, at 27.

This Court's role on summary judgment is limited to drawing "reasonable" inferences in favor of the non-movant, and Biedermann's efforts to rely on "conjecture and speculation" or to "build[] one inference upon another," Cline v. Aetna Life Ins. Co., 290 F. Supp. 3d 425, 434 (W.D.N.C. 2017), through highlighting multiple statements from different people evidencing virtually no knowledge of Biedermann's patents in general, let alone specific knowledge of the patents-in-suit, coupled with assertions that K2M "must have known" about the relevant patents simply because K2M

practices in the same field as Biedermann, is insufficient to survive summary judgment. See EON Corp. IP Holdings LLC v. FLO TV Inc., 802 F. Supp. 2d 527, 533-34 (D. Del. 2011) (rejecting a claim, as part of an indirect infringement analysis, that the defendants "should have known" of one of the plaintiff's patents "by virtue of their participation in the . . . [relevant] market"); Pacing Techs., LLC v. Garmin Int'l, Inc., No. 12-CV-1067, 2013 WL 444642, at *2 (S.D. Cal. Feb. 5, 2013) (finding that the plaintiff's allegations were "too speculative to support a reasonable inference that [the defendant] knew of the patent prior to commencement of th[e] suit" based on the fact that it "holds hundreds of patents, regularly files patent applications, and performs due diligence including patent searches and prior art searches" in the relevant field). Notably, if the "competitor in the field" argument prevailed, every patent case between two companies in the same industry would, by default, require that a jury decide willfulness based on factually unsupported supposition about what the other "must have" known. See CTB, Inc. v. Hog Slat, Inc., 954 F.3d 647, 658 (4th Cir. 2020) ("[P]ermissible inferences must still be within the range of reasonable probability . . . and it is the duty of the court to withdraw the case from the jury when the necessary inference is so tenuous that it rests merely upon speculation and conjecture." (omission in original) (quotation marks omitted). Such speculative exercise finds no

support in the law, which clearly limits the recovery of § 284 enhanced damages to the small subset of cases that involve egregious conduct. Halo, 136 S. Ct. at 1935.

In addition to Biedermann's improper efforts to make broad logical leaps from the evidence it highlights, its summary judgment position also fails to account for the fact that this case involves numerous patents, numerous products, and numerous allegations of discrete forms of infringement. Therefore, even accepting (as discussed below) that K2M had some pre-suit notice of the existence of one of the patents-in-suit, Biedermann fails to illustrate how a jury could conclude that such knowledge put K2M on notice of the other eleven patents at issue in this case. The fact that the vast majority of Biedermann's opposition brief paints in broad strokes seeking to demonstrate generalized knowledge of Biedermann as an industry competitor illustrates that even when the facts are interpreted in its favor, Biedermann has not demonstrated K2M's pre-suit knowledge outside of one of the patents-in-suit that remains in dispute. There is likewise no evidence that K2M copied a marked product, knowingly accepted advice from a "consultant" predicated on his or her knowledge of a competitor's patented product or patented technology, or other circumstantial evidence that could support a reasonable inference that K2M was aware of the patents-in-suit before Biedermann filed the instant action.

Notwithstanding the above, the Court does find that disputed facts and/or conflicting reasonable inferences exist with respect to K2M's pre-suit knowledge of the '093 patent. As to this specific patent, it is undisputed that K2M cited to the relevant Biedermann patent during the prosecution of K2M's patents. See No. 297, at 26 n.10; ECF No. 368, at 26 (listing Biedermann patents cited by K2M).¹⁴ K2M counters such evidence by pointing to facts suggesting that only lawyers or members of K2M's legal team were aware of such references; however, it is unclear to the Court from the cited evidence the degree to which in-house K2M representatives might have been aware of the '093 Biedermann patent, which makes it difficult to resolve this issue without weighing facts and competing inferences. It is therefore this Court's view that, notwithstanding the apparent limitations of Biedermann's evidence, it is not appropriate for this Court to weigh evidence that is capable of supporting reasonable competing inferences.¹⁵ See

¹⁴ The Court's analysis of the '093 patent would otherwise also apply to the '194 patent, which was similarly cited in a K2M patent; however, Biedermann has elected not to proceed on the '194 patent in this case. ECF No. 368, SMF ¶ 24 ("Biedermann has informed K2M [that] it is not pursuing the '194 . . . Patent[] in this case.").

¹⁵ In light of the sheer number of pending issues across nine to twelve disputed patents, only so much of the parties' summary judgment briefs could be devoted to the willfulness issue, and neither party has therefore broken down its briefs on willfulness on a patent-by-patent basis. As the summary judgment burden lies with K2M, the Court finds that the appropriate resolution is to deny summary judgment as to the patent for which Biedermann has highlighted evidence of K2M's pre-suit knowledge, knowledge that could conceivably extend to both the existence of the patent and its contents. A contrary finding may impinge on the jury's role on an issue where the relevant facts remain unclear based on the current state of the record.

Meridian Mfg., Inc. v. C & B Mfg., Inc., 340 F. Supp. 3d 808, 844 (N.D. Iowa 2018) (denying summary judgment in a case where the defendant cited the patent-in-suit "in the prosecution of [the defendant's] own patent"); RLIS, Inc. v. Cerner Corp., No. 3:12-CV-209, 2014 WL 7205434, at *2 (S.D. Tex. Dec. 17, 2014) (finding that "[m]ultiple direct citations" to the patents-in-suit by the defendant's subsidiary in its own patent applications "suggests that [the defendant] knew about [the plaintiff's] patents and their contents, differentiating th[e] case from those involving attenuated references").¹⁶

The Court's ruling as to the '093 patent considers the fact that Biedermann does not rely on pre-suit knowledge in isolation, but rather, highlights such knowledge in conjunction with

¹⁶ The parties' summary judgment filings also address K2M's citation in one of its patents to the "application" that preceded the issuance of the '399 patent. However, as this court has previously held:

"To willfully infringe a patent, the patent must exist and one must have knowledge of it." State Indus., Inc. v. A.O. Smith Corp., 751 F.2d 1226, 1236 (Fed. Cir. 1985) (emphasis in original). "Filing an application is no guarantee any patent will issue and a very substantial percentage of applications never result in patents. What the scope of claims in patents that do issue will be is something totally unforeseeable." Id. Thus, it is insufficient to allege knowledge of a patent application without further alleging knowledge of the patent.

Virginia Innovation Scis., Inc. v. Samsung Elecs. Co., 983 F. Supp. 2d 700, 709 (E.D. Va. 2013). Accordingly, absent facts suggesting either that any K2M representative was later aware of the issuance of the '399 patent (a patent that K2M asserts is anticipated, obvious, and was practiced without patent marking) or that any such person actively took steps to avoid discovering whether the '399 patent did in fact issue, there is no valid basis on which a jury could conclude that K2M had pre-suit knowledge of the '399 patent and/or the scope of what was actually covered by such patent after it issued.

additional circumstantial evidence that could support the inference that K2M inventors or representatives intentionally avoided investigating Biedermann's known prior art,¹⁷ as well as evidence (discussed below) indicating that K2M continued to knowingly infringe after this suit was filed. Accordingly, summary judgment on the issue of willfulness based on pre-suit conduct is **GRANTED** in favor of K2M, with the exception of the '093 patent.¹⁸

¹⁷ Biedermann at times suggests that K2M should have been doing more to fully investigate the scope of competitors' patents, including Biedermann's, that K2M was speculatively aware of, a position that is arguably reminiscent of the willfulness standard in force prior to 2007. Such long-abrogated standard provided that when a "potential infringer has actual notice of another's patent rights, he has an affirmative duty to exercise due care to determine whether or not he is infringing." Seagate, 497 F.3d at 1368. However, not only did Seagate abrogate the "affirmative duty of due care" standard, but the replacement standard adopted in Seagate has now itself been abrogated by Halo, 136 S. Ct. at 1934. This Court's above reference to "avoiding investigation" is not intended to suggest that the Court is applying a standard requiring an "affirmative duty of due care," but rather to note, as it must, the existence of additional evidence that favors Biedermann as to a patent that may have been "known" to K2M prior to the date that the instant suit was filed.

¹⁸ Biedermann's opposition brief also makes reference to K2M's purported knowledge of the '820 patent as well as other patents in the same "families" as the patents-in-suit. While such evidence would surely be additional circumstantial evidence in support of Biedermann's position if there was any evidence indicating that K2M, rather than people K2M spoke with (*i.e.*, Stryker, pre-acquisition) or collaborated with (*i.e.*, Dr. John Carbone) had knowledge of the relevant patents, Biedermann points to no evidence even supporting an inference that K2M had actual knowledge of additional patents-in-suit, and Biedermann has had a full opportunity to seek to develop such facts during discovery. While K2M's lack of pre-suit knowledge certainly does not absolve K2M from damages for any infringement that is proven at trial, the facts do not support double or triple damages in this run-of-the-mill infringement case. See Halo, 136 S. Ct. at 1935 (warning of the dangers if "enhanced damages are awarded in garden-variety cases"). The fact that Biedermann has licensed several of its patents to other companies yet has apparently not required those companies to "mark" patent numbers on their products further illustrates the absence of an inference in support of a theory of generalized "industry notice," *i.e.*, that K2M "must have known" of these Biedermann patents and their contents.

2. Post-suit Conduct

Prior to Halo, § 284 “enhanced damages could not be awarded solely based on post-suit conduct” as a result of the controlling standard articulated in Seagate. TecSec, Inc. v. Adobe Inc., No. 1:10cv115, 2019 WL 1233882, at *1 (E.D. Va. Mar. 14, 2019). After the Seagate standard was abrogated by Halo, “courts have split on whether the prohibition for enhanced damages based solely on post-suit conduct remains.” Id. While the Supreme Court’s rejection of all formulaic tests associated with § 284 damages arguably extends to abrogating the categorical ban on enhanced damages based solely on post-suit conduct (because some cases may involve overwhelming evidence of bad-faith and consciously wrong post-suit conduct), this Court need not decide the issue here. Critically, even assuming that such prohibition is no longer in force, the type of post-suit conduct that could, standing alone, rise to the level that would support an enhanced damages award would require a degree of egregiousness that was at a minimum “willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or-indeed-characteristic of a pirate,” Halo, 136 S. Ct. at 1932, and “[K2M’s] post-suit conduct in this case does not come close to rising to the level of culpability necessary for an award of enhanced damages,” TecSec, 2019 WL 1233882, at *2. Notably, Biedermann has not pursued an injunction and has at most illustrated that it can demonstrate that K2M has continued to

infringe after this lawsuit was filed even though: (1) both the filing of the case itself and Stryker's past knowledge of Biedermann's patents put K2M on notice of the infringement;¹⁹ and (2) K2M purportedly could have designed around multiple patents for a modest sum of money. Noticeably absent from Biedermann's summary judgment opposition is any evidence that K2M acted in a malicious or consciously wrongful way or that K2M lacks a facially reasonable defense to each allegation of infringement. Therefore, as to all patents other than the '093 patent,²⁰ summary judgment is **GRANTED** in favor of K2M as to willful infringement based on post-suit conduct.²¹

In light of the continuing evolution of controlling law on the willfulness standard, this Court further clarifies that even

¹⁹ Notwithstanding Biedermann's apparent suggestion to the contrary, the Court finds no relevance in any "double-notice" grounded in Stryker's knowledge base that became imputable to K2M after it was acquired by Stryker. K2M was fully on notice of Biedermann's patents when suit was filed, and ringing the notice bell a second time after suit was filed does not somehow elevate the otherwise complete notice so as to render K2M's continuing alleged infringement any more improper than it would be without such "second" notice.

²⁰ As a result of evidence that could support a finding that K2M had pre-suit notice of the '093 patent, it would be inappropriate to preclude the factfinder from considering all of K2M's actions relevant to such patent, including post-suit conduct, because the proper test for willful infringement "looks to the 'totality of the circumstances.'" WCM Indus., 721 F. App'x at 970 (quoting Shiley, Inc. v. Bentley Labs., Inc., 794 F.2d 1561, 1568 (Fed. Cir. 1986)). That said, Biedermann's concession regarding the lack of "marking" of the '093 patent may undercut, at least to a degree, Biedermann's ability to demonstrate that K2M engaged in egregious pre-suit conduct with respect to the '093 patent.

²¹ While the Court's ruling on this issue largely favors K2M, the Court rejects the portion of K2M's brief that relies on Seagate for the proposition that failure to seek a preliminary injunction categorically precludes

if the factfinder concluded that K2M committed "willful" infringement through its post-suit conduct of continued infringing sales, the necessary second step to obtaining an increased damages award—that is, proving to the Court that K2M's conduct was "egregious"—finds no factual support in the instant record. See Presidio Components, 875 F.3d at 1382 ("Enhanced damages are generally only appropriate in egregious cases of misconduct, such as willful, wanton, or malicious behavior," and therefore, "an award of enhanced damages does not necessarily flow from a willfulness finding."). In other words, this Court easily concludes as a matter of law that K2M's post-suit conduct is insufficient, standing alone, to support an increased damages award even if a jury found that K2M's conduct meets the updated legal definition of "willful infringement." See Eko Brands, 946 F.3d at 1378 (explaining that, post-Halo, the jury must find "no more than deliberate or intentional infringement" and if such finding is made, the "question of enhanced damages is addressed by the court," and it is "at this second stage at which the

enhanced damages based solely on post-suit conduct. See ECF No. 383, at 18. As discussed herein, Halo largely rejected the willful infringement standard outlined in Seagate and related cases, and "eschew[ed] any rigid formula for awarding enhanced damages under § 284" in favor of a broad rule that "commits the determination whether enhanced damages are appropriate to the discretion of the district court." Halo, 136 S. Ct. at 1934 (internal quotation marks omitted); see Mentor Graphics Corp. v. EVE-USA, Inc., 851 F.3d 1275, 1295–96 (Fed. Cir. 2017) (reversing the district court's ruling that continued to rely on the "Seagate rule" requiring a preliminary injunction, noting that there are no rigid rules governing the willfulness inquiry). The absence of an injunction request may be relevant, but it is no longer determinative.

considerations of egregious behavior and punishment are relevant"). Both prongs of such inquiry are appropriately taken up on summary judgment as to the allegations limited to post-suit willful infringement, or else a great percentage of patent cases would permit the pursuit of enhanced damages at trial absent a shred of evidence of egregious behavior. As explained by another judge of this Court in TecSec:

Enhanced damages "are generally reserved for egregious cases of culpable behavior." Halo, 136 S. Ct. at 1932. As the Supreme Court explained in Halo:

Awards of enhanced damages under the Patent Act over the past 180 years establish that they are not to be meted out in a typical infringement case, but are instead designed as a "punitive" or "vindictive" sanction for egregious infringement behavior. The sort of conduct warranting enhanced damages has been variously described in our cases as willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or—indeed—characteristic of a pirate.

Id. [Plaintiff's] post-suit conduct in this case does not come close to rising to the level of culpability necessary for an award of enhanced damages.

[Plaintiff's] continued sale of the infringing product without removing its infringing capability is merely typical infringement behavior that is not a proper basis for enhanced damages. Intellectual Ventures I LLC v. Symantec Corp., 234 F. Supp. 3d 601, 612 (D. Del. 2017) (finding that "[n]o reasonable jury could find willful infringement based on" evidence that the defendant "has continued to update, produce, and sell" the infringing product after the suit was filed). . . .

. . . .

Thus, even if post-suit conduct alone were sufficient for a finding of willful infringement, and even if the

jury would have agreed with [the plaintiff] that [the defendant] willfully infringed, an award of enhanced damages would not have been appropriate under the facts in this case. For these reasons, and for good cause shown, [the defendant] was entitled to judgment as a matter of law on the issue of willful infringement.

TecSec, 2019 WL 1233882, at *2-3.²²

For the reasons set forth above, K2M's motion seeking a ruling of "no willfulness" is **GRANTED** as to all of the patents-in-suit, with the exception of the '093 patent. Should the jury find intentional infringement of such patent, this Court will determine whether enhanced damages are appropriate based on the evidence presented at trial. Having addressed all of K2M's summary judgment claims, the Court turns to Biedermann's cross-motion for summary judgment.

IV. BIEDERMANN'S SUMMARY JUDGMENT MOTION

Biedermann seeks summary judgment on four grounds: (1) K2M is estopped from challenging the validity or enforceability of the '820 patent in light of K2M's status as a subsidiary of Stryker; (2) the "Carbone patent"²³ does not qualify as § 102(g) prior art, and thus does not anticipate or render obvious claims of the '820, '194, or '093 patents; (3) K2M's Yukon device infringes Claim 1 of

²² Although the parties' summary judgment motions do not compartmentalize the "egregious" inquiry into the second step of the applicable analysis, both parties' briefs squarely address whether Biedermann's evidence fails, as a matter of law, to demonstrate egregious conduct, and it is therefore appropriate for this Court to address this issue at this time.

²³ The Carbone patent, U.S. Patent No. 6,974,460, is assigned to Stryker.

the '820 patent; and (4) Claim 14 of the '399 patent is infringed by K2M's Yukon devices and the '399 patent is not anticipated or rendered obvious by the prior art references cited by K2M.

A. Estoppel Regarding the '820 Patent

Biedermann's summary judgment motion asserts two primary theories as to why K2M is barred from challenging the validity or enforceability of the '820 patent: (1) in 2013, at the conclusion of patent interference litigation and in an effort to avoid future litigation, Stryker, K2M's new parent company, voluntarily entered into a licensing agreement with Biedermann whereby Stryker expressly agreed "that it will not take any steps to invalidate or otherwise challenge the validity or enforceability of any of the claims" of certain listed patents, which include the '820 patent, ECF No. 314-1, ¶¶ 1.3, 5.3; and (2) K2M is collaterally estopped from asserting that the Carbone patent has priority over the '820 patent because the issue was previously litigated by Stryker, the real party in interest in this case. For the reasons set forth below, the Court agrees with Biedermann's first contention, and summary judgment is therefore **GRANTED** as to this issue.

1. Contractual Estoppel

It is undisputed that Stryker acquired K2M less than a week after the original complaint was served in this case. The summary judgment record reveals factual disputes regarding the degree to which K2M was operating as an independent corporate entity at

various points during this litigation, with at least part of the dispute appearing to turn on the distinction between K2M Inc. and K2M Group Holdings, Inc. See ECF No. 360, Counterstatement of Facts ("COF") ¶ 6. The Court assumes for the purposes of summary judgment, in K2M's favor as non-movant, that K2M Inc. continues to be an ongoing corporate entity with "legal advisors" that are still participating in this case. However, it is undisputed that K2M was acquired by Stryker, that K2M has "integrated" with Stryker (or is at least in a still "ongoing process" of integration),²⁴ and that Stryker will be bound by any judgment against K2M in this case. See ECF No. 360, COF ¶ 6; ECF No. 246, at 7-9. Moreover, K2M does not challenge Biedermann's factual assertions that former K2M employees are now Stryker employees and that Stryker and its legal department is participating in, and possibly even controlling, the defense of this patent litigation suit. Compare ECF No. 312, Statement of Undisputed Facts ("SUF") ¶¶ 17-18, with ECF No. 360, COF ¶ 6. All that said, the critical fact for the purpose of resolving Biedermann's summary judgment motion is that K2M was acquired by Stryker in November 2018, just days after Biedermann served the original complaint, and K2M is

²⁴ The COVID-19 pandemic has significantly delayed the timeline of this case, as civil jury trials have been suspended in this District since March of last year and the parties have elected not to proceed to a bench trial. While the facts regarding the degree of integration between K2M and Stryker that existed during 2019 and early 2020 may have materially changed with the passage of time, any such change does not affect the outcome of Biedermann's summary judgment motion.

unquestionably, at a minimum, a corporate "subsidiary" of Stryker. See ECF No. 246, at 15 (reflecting K2M's assertions that the announcement of the acquisition occurred in August of 2018, shortly before suit was filed, and that the completion of the acquisition occurred in November of 2018, shortly after suit was filed).

As K2M is clearly a subsidiary of Stryker, the question for the Court on summary judgment is whether K2M is contractually bound not to challenge the priority of the '820 patent pursuant to the terms of the 2013 patent license agreement between Stryker and Biedermann, as such written contract expressly precludes Stryker from taking any steps to invalidate or otherwise challenge the validity or enforceability of named Biedermann patents, to include the '820 patent. See ECF No. 314-1. As this Court explained in detail in Certusview Technologies, LLC v. Usic, LLC, No. 2:14cv373, 2014 WL 12591937 (E.D. Va. Dec. 15, 2014):

The Federal Circuit has held that a settlement agreement can collaterally estop a party thereto from contesting the validity of a patent in certain instances. See Flex-Foot, Inc. v. CRP, Inc., 238 F.3d 1362, 1370 (Fed. Cir. 2001). Under the doctrine of contractual estoppel, "invalidity and unenforceability claims may be released [in a settlement agreement], but only if the language of the agreement or consent decree is clear and unambiguous." Baseload Energy, Inc. v. Roberts, 619 F.3d 1357, 1362 (Fed. Cir. 2010). Moreover, "clear and unambiguous language barring the right to challenge patent validity in future infringement actions is sufficient, even if invalidity claims had not been previously at issue and had not been actually litigated." Id. at 1363. Courts apply Federal Circuit law in determining whether contractual estoppel precludes a party from challenging the validity of a

patent "because the question of whether a settlement agreement bars a party from challenging the validity of a patent in a subsequent action is intertwined with the substance of enforcement of a patent right." Id. at 1361 (citing Flex-Foot, 238 F.3d at 1365). Under Federal Circuit law, courts "interpret consent judgments in accordance with the general principles of contract law, such that the scope of a consent decree is limited to its terms and . . . its meaning should not be strained." Ecolab, Inc. v. Paraclipse, Inc., 285 F.3d 1362, 1376 (Fed Cir. 2002) (internal quotation marks and citations omitted).

Certusview, 2014 WL 12591937, at *10 (footnote omitted).

"Accordingly, to determine whether the [post-litigation] agreement contractually estops [K2M, as a Stryker subsidiary,] from contesting the validity of the ['820 patent], the Court must turn to the language of the agreement itself." Id.

While there are multiple disagreements between the parties regarding the applicability of contractual estoppel,²⁵ the primary issue is whether K2M is bound by the earlier-in-time patent licensing agreement executed by Stryker and Biedermann. Two

²⁵ The Court rejects K2M's preliminary contention that none of the factors outlined by the Federal Circuit in Flex-Foot support contractual estoppel because K2M was not itself a party to the prior litigation and/or contract. ECF No. 360, at 18-19. See Flex-Foot, 238 F.3d at 1370 (listing multiple factors applicable to determine whether a contractual waiver of future validity challenges is enforceable, including whether the "accused infringer has challenged patent validity" and "has elected to voluntarily dismiss the litigation with prejudice under a settlement agreement" with a clear waiver provision). Here, both the Flex-Foot factors and the Federal Circuit's subsequent decision in Baseload Energy reveal that the contract at issue is enforceable as to Stryker. See Baseload Energy, 619 F.3d at 1362 (explaining that while the Flex-Foot factors are "pertinent" to whether a waiver of future validity challenges is enforceable, they are not "determinative" because "[e]ach case must be examined on its own facts in light of the agreement between the parties"). Whether the scope of such contract, as agreed to by Biedermann and Stryker, extends to K2M as a subsidiary of Stryker turns on the express terms of the contract.

provisions of the patent license agreement are key. Paragraph 5.3 provides:

5.3 Stryker represents, warrants and covenants that it will not take any steps to invalidate or otherwise challenge the validity or enforceability of any of the claims of any Biedermann Favored Angle Patents that issued prior to the Effective Date. With respect to any other claims in the Biedermann Favored Angle Patents, Stryker shall have the right to take active steps to invalidate or otherwise challenge the validity or enforceability of such claims, but only in the event that such claims are both (i) allowed after the Effective Date, and (ii) asserted in an infringement action by DePuy or Biedermann against Stryker or any of their Affiliates.

ECF No. 314-1 ¶ 5.3 (emphases added). Furthermore, paragraph 10.1 provides:

10.1 The Parties agree that this License Agreement shall inure to the benefit of and be binding upon each of their respective agents, representatives, shareholders, officers, directors, attorneys, employers, permitted assigns, subsidiaries, insurers, and predecessor or permitted successor companies.

Id. ¶ 10.1 (emphases added). Consistent with this Court's analysis in Certusview, the law is clear that the contract does not estop Stryker or its subsidiaries from contesting the validity of the '820 patent unless the contract provisions provide a "clear and unambiguous" release of such claims.

Whether there is a clear release here turns first on the language of paragraph 5.3, and this Court easily concludes that such paragraph provides a clear and unambiguous release with respect to the specified patents that issued prior to the execution

of the 2013 contract, to include the expressly referenced '820 favored angle patent, which is dated May 18, 2004. Specifically, the contract's plain language provides that Stryker "will not take any steps to invalidate or challenge the validity or the enforceability of any of the claims" of the '820 patent. Id. ¶ 5.3 (emphases added). "In cases interpreting similar language in settlement agreements, other courts have concluded that such language qualified as a clear and unambiguous release of the right to challenge the validity of a patent in a future action." Certusview, 2014 WL 12591937, at *13; see Flex-Foot, 238 F.3d at 1364, 1370 (finding a clear waiver of the right to challenge a patent based on language in a written settlement "agree[ing] not to challenge or cause to be challenged, directly or indirectly, the validity or enforceability of [two listed patents] in any court or other tribunal"); SRAM, LLC v. Hayes Bicycle Grp., Inc., 973 F. Supp. 2d 894, 904-05 (N.D. Ill. 2013) (finding an enforceable waiver based on a settlement agreement stating that the party "agrees not to take any action whatsoever to attack the validity or enforceability" of the listed patents); Petter Invs., Inc. v. Hydro Eng'g, Inc., 828 F. Supp. 2d 924, 926 (W.D. Mich. 2011) (finding contractual estoppel based on a settlement agreement stating that neither the party, "nor its attorneys shall take any action to aid, induce, assign, or participate in, directly or

indirectly, any action contesting the validity or enforceability of any of the Hydro patents in suit").

While the release provision itself is clear, K2M argues that, as an after-acquired subsidiary, it is not bound by ¶ 5.3, which states in the first sentence that "Stryker represents, warrants and covenants" that it will not take steps to challenge the patents. Notably absent from such first sentence, argues K2M, is any reference to Stryker's "affiliates" or subsidiaries agreeing not to take such steps. In support of such argument, K2M notes that multiple other provisions of the contract expressly reference "affiliates," to include the second sentence of ¶ 5.3. K2M's argument, which has some initial appeal, contends that the failure to include the word "affiliates" in the first sentence of ¶ 5.3 requires that such provision be read to only limit Stryker.

Biedermann's counter to K2M's position focuses on ¶ 10.1 of the contract, which expressly states that all the benefits of the licensing agreement, and all the obligations of such agreement, extend to various agents/subdivisions/alter egos of the named parties, to include "subsidiaries." K2M, in turn, calls such provision "boilerplate," and labels Biedermann's construction of the contract as "strained." K2M, however, fails to explain how or why a purportedly "boilerplate" provision in a contract between two sophisticated entities is unenforceable, particularly when such provision appears to be designed, at least in part, to avoid

an "end-run" around the obligations of the contract that would occur if Stryker or Biedermann incorporated or acquired a subsidiary, or acted through an agent or representative, to perform the precise acts that the contract forbids the signatory corporation from performing. Stated a little differently, "boilerplate" language is a mainstay of contracts for a reason: time has taught that without certain provisions, the benefit of the bargain may be lost. K2M's use of the "boilerplate" label therefore does not advance its cause. Cf. ¶ 10.8 (indicating that the terms of the contract are "the result of negotiations between the Parties and their counsel"). Similarly, K2M fails to offer any compelling argument as to why reading ¶ 10.1 as extending all listed obligations to "subsidiaries," as is expressly stated in such written provision, is a "strained" reading of the contract.

Although K2M's position contrasting various contract provisions has some initial appeal, the list of qualifying "affiliates"²⁶ referenced in some contract provisions on the one hand, and the list of agents, representatives, subdivisions, and former/successor entities that are provided in ¶ 10.1, on the other hand, clearly differ, which undercuts K2M's contention that there

²⁶ Affiliates are defined by the contract as "any present or future entity that directly or indirectly controls, is controlled by, or is under common control with another entity, and for such purpose 'control' shall mean the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of the entity, whether through the ownership of voting securities, by contract or otherwise." ECF No. 314-1 ¶ 1.1.

is an internal "conflict" or ambiguity across various contract provisions. It is true that a "subsidiary" entity that is controlled by the parent fits within both the contractual definition of "affiliates" and the list of "related" entities/agents that ¶ 10.1 indicates are bound by the contract, but some of the other representatives/agents do not appear to fit both lists, suggesting that such contractual terms/provisions serve different purposes.

The Court therefore rejects K2M's contention that rules of contract construction require this Court to rely on the absence of the word "affiliate" in a specific contract provision (¶ 5.3) rather than the broadly applicable and clearly worded general provision set forth in ¶ 10.1. To the contrary, a reading of the contract as a whole reveals that the expressly defined term "affiliates" is used to refer to "affiliates" of various entities, to include "DePuy" and "Howmedica" who are licensees. ECF No. 314-1 ¶¶ 2.2., 2.4. Additionally, the contracting parties appear to have understood that the more narrow term "affiliates" was not defined in such a way as to cover many of the entities/agents/representatives listed in ¶ 10.1, as other provisions of the contract use the word "affiliates" immediately adjacent to a list of other individuals/entities, including agents, directors, employees, insurers, etc., id. ¶¶ 4.1, 4.2. Accordingly, K2M's contention that ¶ 10.1 should not be read to extend Stryker's

obligations to Stryker and its subsidiaries is rejected. The Court reaches such conclusion regardless of whether it applies New Jersey law²⁷ or Federal Circuit law to the interpretation of the contract's terms, as ¶ 10.1 of the contract is clear and unambiguous—Stryker and Biedermann unequivocally agreed that their subsidiaries would be bound by the terms of the license agreement. Cf. In re County of Atlantic, 230 N.J. 237, 254, 166 A.3d 1112, 1122 (2017) (explaining that if the contract "is clear, then it must be enforced as written," and that a "reviewing court must consider contractual language in the context of the circumstances at the time of drafting" and must "apply a rational meaning in keeping with the expressed general purpose" (internal quotation marks omitted)); McAbee Const. Inc. v. United States, 97 F.3d 1431, 1435 (Fed. Cir. 1996) (indicating that if contractual provisions "are clear and unambiguous, they must be given their plain and ordinary meaning," and that a contract must be interpreted "in a manner that gives meaning to all of its provisions and makes sense").

Having adopted Biedermann's plain meaning interpretation of the contract, and rejected K2M's efforts to substantially limit the enforceability of ¶ 10.1, the remaining question is whether an "after-acquired" subsidiary is included within the contract's definition of "subsidiary." After reviewing the arguments and

²⁷ The contract provides that New Jersey law controls its interpretation. ECF No. 314-1 ¶ 10.2.

case law advanced by the parties, the Court finds that it is. See In re Spring Ford Industries, No. CIV. A. 05-3788, 2006 WL 724573, at *3 (E.D. Pa. Mar. 21, 2006) (concluding, based on the terms of the contract before the court, that "the only reasonable meaning of the term 'subsidiaries' encompasses future as well as present subsidiaries"). Any other interpretation, particularly within a broadly worded contract provision that both reaches into the past ("predecessor" companies), and into the future ("permitted assigns" and "permitted successor companies"), would not be rational or in keeping with the expressed general purpose of the contract, which is to resolve certain patent disputes for a period of many years into the future. See Magnivision, Inc. v. Bonneau Co., 250 F.3d 758, 2000 WL 772323, at *10-11 (Fed. Cir. Jun. 15, 2000) (unpublished table opinion) (finding that an earlier-in-time patent settlement agreement that expressly extended to "the parties herein, their officers, agents and assigns and all those in active concert and privity with them" was applicable to a subsidiary acquired "some months after the agreement" because such subsidiary "since its acquisition, [was] in privity" with the parent signatory); In re Spring Ford, 2006 WL 724573, at *4 ("[T]he fact that the parties used the same sentence to bind their subsidiaries and successors and assigns . . . further indicates the parties' intent for the . . . [c]ontract to apply to any subsidiaries they might have in the future as well."). As argued

by Biedermann, if after-acquired subsidiaries were not included, the contract would have little force unless it was re-executed every time either Biedermann or Stryker acquired or created a new subsidiary (or hired new agents, representatives, officers, directors, or attorneys, or even if shares were purchased by new "shareholders"). ECF No. 314-1, ¶ 10.1; see In re Spring Ford, 2006 WL 724573, at *3. If after-acquired subsidiaries were not bound by the contract, Stryker or Biedermann could simply incorporate a "new" subsidiary and that company could then engage in the precise conduct barred by the parties' contract.

For all of these reasons, the Court finds that K2M, as a Stryker subsidiary, is contractually precluded from litigating the validity of the '820 patent, a promise that K2M's parent voluntarily agreed that it, and its subsidiaries, would honor during the life of the contract. Any other interpretation of the contract would empower Stryker to make an end-run around the terms of the contract and accomplish, through a new wholly owned subsidiary being actively integrated into Stryker²⁸ the precise acts that both Stryker and its earlier-in-time subsidiaries are precluded from engaging in under the express terms of the

²⁸ As acknowledged by K2M in its briefing on another related motion, while K2M was a "going concern" as of the Spring of 2020, if there is an issue with Biedermann recovering damages from K2M, "Stryker as successor-in-interest will be bound by any judgment against K2M." ECF No. 246, at 7.

contract.²⁹ Such contract was entered into by sophisticated business entities that are competitors in the same field, and was signed by Stryker at the conclusion of a lengthy patent dispute and in an effort to avoid future patent disputes. When Stryker elected to acquire K2M, it did so with the knowledge of its own longstanding contractual obligations, and Stryker's and K2M's efforts, after acquisition, to jointly develop an invalidity defense to the '820 patent based on Stryker's own patent cannot be permitted based on the clear terms of the contract.³⁰ Biedermann's

²⁹ As noted above, Stryker's contractual promise was not limited to an agreement not to challenge the validity of the listed patents through litigation, but was a promise not to take any steps to "challenge the validity or enforceability of any of the claims" of the '820 patent. The record indicates, however, that Stryker itself took "steps" to further its "new" subsidiary's challenge to the enforceability of the '820 patent through producing Stryker documents and witnesses in an effort to utilize a Stryker-owned patent to challenge the validity of the '820 favored angle patent. Cf. ECF No. 312, SUF ¶ 18 (asserting, as an undisputed fact, that Stryker voluntarily produced to K2M "numerous documents" predating the prior Biedermann/Stryker interference action without a subpoena and that K2M now relies on that information, a Stryker employee, and long-time Stryker consultant Dr. Carbone in support of its challenge to the '820 patent); ECF No. 360, COF ¶¶ 1-6 (responding to Biedermann's SUF but failing to contest the facts in SUF ¶ 18).

³⁰ It is not lost on the Court that K2M was not yet Stryker's subsidiary at the time this lawsuit was filed, and that K2M, at least for a matter of days, had the ability to challenge the validity of the '820 patent. Specifically, the original complaint was served on November 6, 2018, ECF No. 9, and Stryker completed its acquisition of K2M three days later, on November 9, 2018. ECF No. 360 ¶¶ 5-6. Of course, no responsive pleading was filed during this time, with an amended complaint filed by Biedermann on November 23, 2018, and an "Answer and Affirmative Defenses" first filed by K2M on January 4, 2019. Accordingly, while K2M (and possibly Stryker) was aware of the '820 infringement allegations at least three days prior to the completion of the acquisition, the first time that K2M advanced an invalidity affirmative defense through broadly referencing the invalidity of "[o]ne or more of the claims of the asserted patents," ECF No. 26 ¶ 22, was two months after K2M was a "subsidiary" of Stryker. It would be fanciful to suggest that during the first three days of the lawsuit, K2M had developed a specific invalidity defense based on the nearly two-decade old timeline

summary judgment motion is therefore **GRANTED** with respect to the contractual estoppel argument regarding the '820 patent.

2. Collateral Estoppel/Alter Ego

In light the ruling immediately above, the Court does not take up Biedermann's alternative arguments on the issue of estoppel. The Court does note, however, that it is not immediately clear whether collateral estoppel would apply (as argued by Biedermann) as it appears that Stryker elected not to directly contest priority in the prior federal litigation discussed in the parties' briefs, Stryker Spine v. Biedermann Motech GmbH, 684 F. Supp. 2d 68, 78 (D.D.C. 2010), which could undercut Biedermann's argument as to why such issue was purportedly "critical and necessary" to the prior proceeding, cf. SecurityPoint Holdings, Inc. v. United States, 138 Fed. Cl. 101, 108 (2018) (finding that although the issue of patent ownership was alleged in a prior complaint by a related entity, it was "not actually litigated" in

as to when Dr. Carbone purportedly conceived of a screw design associated with a patent that was assigned to Stryker many years earlier. While this Court has carefully contemplated the fairness of a ruling that essentially cuts off a K2M defense that "could have" been mounted the day that K2M was initially served with the original complaint, Stryker's contract is clearly written, and Stryker completed its acquisition of K2M after suit was filed with knowledge of its prior contractual arrangement with Biedermann. This Court is therefore unaware of facts that could support any form of equitable exception that would allow K2M, as a Stryker subsidiary in the process of "integrating" into Stryker, to perform the precise acts that Stryker is contractually precluded from performing, particularly when K2M seeks to do so with Stryker's assistance based on a patent priority challenge involving a patent held by Stryker (a challenge Stryker voluntarily elected not to pursue in the earlier interference action with Biedermann and thereafter promised never to assert during the life of the contract).

such prior proceeding, rendering collateral estoppel a "poor fit" based on the fact pattern before the court). As to Biedermann's "alter ego" or "agency" theory, such theory has some appeal upon initial review; however, the existence of disputed facts regarding the degree to which K2M is operating as an independent corporate entity and/or the degree to which Stryker is controlling the defense of this case renders such issue inappropriate for resolution on the summary judgment record before the Court.

B. The Carbone Patent is not § 102(g) Prior Art

Biedermann's summary judgment motion next asserts that the current record establishes that no reasonable juror could conclude that the Carbone patent discussed above is § 102(g) prior art, and thus, such patent cannot anticipate or render obvious claims of the '820, '194, or '093 patents. The Carbone patent dispute turns on the priority date of such patent, which is predicated on: (1) a dispute over the date of the "reduction to practice" ("RTP") of the invention covered by the Carbone patent, see ECF No. 312, at 23-25; ECF No. 360, at 17-21; and (2) Dr. Carbone's "diligence" in working toward RTP based on either the disputed actual RTP date or the undisputed constructive RTP date.³¹

Briefly summarizing the relevant timeline, it is undisputed that a provisional patent application for the Carbone patent was

³¹ At this stage, the Carbone dispute may only be relevant to the '093 patent, with K2M contractually precluded from challenging the priority of

filed in September of 2001, which constitutes the constructive RTP date. However, K2M asserts that the Carbone patent benefits from an earlier actual RTP date of March 2001, when a prototype of such invention was purportedly "tested." ECF No. 360, at 18-21. Biedermann disputes such actual RTP claim, further arguing that, regardless of which RTP date is used, K2M fails to establish that the Carbone inventors exercised the requisite degree of ongoing "diligence" between November 2000 when Biedermann filed a foreign patent application (the latest priority date for Biedermann's patents) through the claimed RTP dates for the Carbone patent.³² ECF No. 312, at 23-25; ECF No. 391, at 10-12.

As argued by K2M regarding the claimed actual RTP date of March of 2001, Federal Circuit law provides that the degree to which an invention requires "testing" to establish RTP turns on the complexity of the invention itself. Scott v. Finney, 34 F.3d 1058, 1062 (Fed. Cir. 1994). Moreover, the "nature of testing necessary to show reduction to practice . . . depends on the particular facts of each case, with the court guided by a common

the '820 patent and Biedermann narrowing the case such that the '194 patent is no longer at issue.

³² The Carbone invention was purportedly conceived prior to November of 2000, and potentially as early as 1999. To prevail on its priority claim, K2M must demonstrate that Dr. Carbone was diligently developing his invention during "the entire critical period, which begins just prior to the competing reference's effective date and ends on the date of the invention's reduction to practice." Perfect Surgical Techniques, Inc. v. Olympus Am., Inc., 841 F.3d 1004, 1007 (Fed. Cir. 2016).

sense approach in weighing the sufficiency of the testing." Id. (emphasis added). Here, K2M has presented both testimony and documentary evidence indicating that pre-patent testing of the Carbone invention was in fact performed during the relevant time period, including in March of 2001, and Biedermann's contention that it is "undisputed" that no testing occurred appears to be contradicted by K2M's evidence. ECF No. 360, COF ¶¶ 7-8; Scott, 34 F.3d at 1062 (explaining that "the character of the testing varies with the character of the invention and the problem it solves," and that in some cases, testing is sufficient even if it occurs "under laboratory conditions which do not duplicate all of the conditions of actual use"). Although "whether an invention has been reduced to practice is a question of law," 4 Annotated Patent Digest § 26:29 (Feb. 2021 update), resolving such question necessarily turns on "subsidiary factual findings," Cooper v. Goldfarb, 154 F.3d 1321, 1331 (Fed. Cir. 1998). Here, the relevant facts regarding K2M's March 2001 actual RTP date are disputed, which prevents resolution of this issue on the summary judgment record.

Separate from the dispute over actual RTP, there are factual disputes associated with whether the Carbone inventors exercised the requisite degree of "diligence" during the critical period between November 2000 and September 2001 (or alternatively, November 2000 and March 2001 if the claimed actual RTP date is

ultimately deemed valid). As highlighted by K2M, "[w]hether an inventor exercised reasonable diligence in reducing its invention to practice is a question of fact." 4 Annotated Patent Digest § 26:52; see also Brown v. Barbacid, 436 F.3d 1376, 1379 (Fed. Cir. 2006) (same). K2M has provided some evidence beyond inventor testimony in order to "corroborate" the claimed diligence, and although such corroborating evidence does not appear to be particularly compelling to the extent it is assessed and "weighed" by the Court, weighing such evidence is clearly not appropriate at the summary judgment stage.

Accordingly, notwithstanding the "clear and convincing" standard that K2M must ultimately satisfy in this case to defeat the priority of Biedermann's patents, the Court finds that it would be stepping beyond its permissible role to decide this issue at the summary judgment stage. This is particularly the case because the proof required of K2M is that the inventor acted with reasonable diligence, and the corroboration of inventor testimony "may be shown by a variety of activities," to include activities that the inventors behind the Carbone patent purport to have taken in this case. See Perfect Surgical Techs., Inc. v. Olympus Am., Inc., 841 F.3d 1004, 1009 (Fed. Cir. 2016) (explaining that "[a] patent owner need not prove the inventor continuously exercised reasonable diligence throughout the critical period; it must show there was reasonably continuous diligence," and based on such

standard, "periods of inactivity within the critical period do not automatically vanquish a patent owner's claim of reasonable diligence"); Brown, 436 F.3d at 1380 (listing various activities that have been accepted as reasonable diligence in prior cases); see also ATI Techs. ULC v. Iancu, 920 F.3d 1362, 1372 (Fed. Cir. 2019) ("Diligence is not negated if the inventor works on improvements and evaluates alternatives while developing an invention.") (emphasis added). For these reasons, Biedermann's summary judgment motion is **DENIED** on this issue.

C. Yukon's Infringement on the '820 patent

Biedermann's third argument on summary judgment seeks judgment as a matter of law that K2M's Yukon product infringes on Biedermann's '820 patent. K2M disputes such claim, arguing that disputed facts exist as to whether K2M's Yukon device contains a "first bore" and a "second bore," or whether there is a "single bore" with two different openings. ECF No. 360, at 21-23.

Such dispute requires little discussion, as the Court's analysis of this dispute is virtually identical to the dispute in K2M's cross-motion for summary judgment addressing the number of "walls" in K2M's Cascadia placeholder device. In short, the parties' well-argued briefs and evidence in support, to include conflicting expert reports, leave this Court with a clear view on which party has the superior position on this issue, with K2M appearing to face an uphill battle to establish that its Yukon

device has only a single "bore." To be clear, this Court's Markman construction of "bore" does not establish that two distinct bores cannot lie along the same longitudinal axis, see ECF No. 391, at 13-14, but it also does not establish that two similarly sized openings on opposite ends of what appears to be a largely uniformly sized passageway constitute two different bores. K2M's expert raises plausible questions regarding the reliability of the manner in which Biedermann's expert distinguishes between different areas of the interior "passageway(s)" of the Yukon device to identify the purported demarcation between a first and second bore. Therefore, just like the disputed facts relevant to distinguishing a multi-walled device from a single-walled or scaffold-like/porous device, whether a device has a single bore with two opposing "openings," or whether it has two distinct co-linear bores, requires careful line drawing based on analyzing and weighing facts.

Accordingly, as "summary judgment cannot be granted merely because the court believes that the movant will prevail if the action is tried on the merits," Jacobs, 780 F.3d at 568, and because there is sufficient evidence favoring K2M to allow a reasonable jury, should it reject Biedermann's expert's view, to rule in K2M's favor, this issue must be decided by the factfinder at trial, not by the Court on summary judgment. Biedermann's summary judgment motion is therefore **DENIED** on this issue.

D. Yukon's Infringement on the '399 patent

Biedermann's final summary judgment claim includes multiple subparts, with Biedermann seeking summary judgment as to: (1) whether Claim 14 of the '399 patent is infringed by K2M's Yukon devices; (2) whether K2M can establish that prior art anticipates Claim 14 of the '399 patent; and (3) whether K2M can establish that prior art renders Claim 14 obvious.

1. Infringement

Biedermann's opening summary judgment brief asserts that there is an absence of disputed fact regarding K2M's infringement of Claim 14 of the '399 patent, "which covers a pedicle screw system that consists of at least a first and second rod with different diameters that can be accommodated by the pressure element of the pedicle screw." ECF No. 312, at 26-27. Biedermann asserts that K2M's expert did not rebut this claim and that K2M has never alleged noninfringement of this claim as to K2M's Yukon devices. Id. at 27. In its opposition brief, K2M does not directly refute Biedermann's position, but instead argues that Biedermann is seeking "summary judgment relief that is broader than its infringement allegations," contending that Biedermann is improperly seeking damages for "Yukon systems sold without two rods of different diameters." ECF No. 360, at 23.

In response, Biedermann unsurprisingly clarifies that its summary judgement motion does not seek relief for K2M Yukon systems

associated with a single rod (because such a system would obviously not infringe on Claim 14 of the '399 patent). ECF No. 391, at 15. Rather, Biedermann both argues and points to evidence suggesting that two different diameter rods are "standard items" sold with K2M's Yukon devices. Id.; ECF No. 392-3. Biedermann also highlights that, as expressly alleged in its infringement allegations, Biedermann's position is that K2M infringes Claim 14 of the '399 patent "by at least making, using, offering to sell, and selling" its Yukon systems with two different diameter rods.³³ ECF No. 392-4, at 7-8 (emphasis added). Finally, Biedermann appropriately notes that even if there is some dispute over which specific sales, or offers to sell, involved two rods, such factual disputes can be determined by a jury and do not prevent summary judgment as to liability. ECF No. 391, at 16; see also ECF No. 360, at 23 (acknowledging that the extent of damages "presents a factual issue for the jury").

Agreeing with Biedermann's position on this issue, summary judgment is **GRANTED** as to liability for K2M's infringement of Claim 14 of the '399 patent with respect to K2M's Yukon system. To the

³³ The expertise demonstrated by K2M's counsel throughout this case arguably casts some doubt as to the sincerity of K2M's suggestion that Biedermann is improperly exceeding the scope of its infringement allegations. This Court hopes that the "gamesmanship" that appeared to mar the discovery process from both sides of the aisle has come to an end in this case, thus allowing the parties to approach settlement discussions with a true goal toward reaching a mutually acceptable agreement. Should such discussions prove fruitless, the Court notes in advance that it expects a trial conducted with adherence to the Principles of Professionalism for Virginia Lawyers.

extent that questions remain as to the quantum of damages based on the manufacture, sale, or offer to sell Yukon systems with two rods, such matter is reserved for the jury (assuming, of course, that such patent survives K2M's anticipation/obviousness challenge).

2. Anticipation by Prior Art

Biedermann's next subclaim on the '399 patent argues that the three prior art references cited by K2M are insufficient as a matter of law to demonstrate express or inherent anticipation. ECF No. 312, at 27-30. Claim 14 of the '399 patent has two different requirements relevant to such issue, with such claim disclosing: (1) "at least a first rod and a second rod having different diameters and configured to be interchangeably received" into the bone anchoring device; and (2) that such rods, when clamped into the channel "by the fixation element," have only "two contact lines" with the "pressure element." '399 Patent, Claim 14, ECF No. 14-3.³⁴ K2M challenges Biedermann's contention,

³⁴ The "two contact lines" requirement, when read in context with the rest of Claim 14, refers to a design where the "at least" two rods will not contact the bottom surface of the pressure element once they are inserted, with the pressure element generally having a "substantially V-shaped" groove to receive the rods such that the rods contact the pressure element at two lines running along the angled sides of the pressure element. '399 Patent 3:6-12; 4:24-31.

asserting that questions of fact preclude summary judgment as to both express and inherent anticipation. ECF No. 360, at 23-30.

As explained by the Federal Circuit, "[a]nticipation requires that a single [prior art] reference 'describe the claimed invention with sufficient precision and detail to establish that the subject matter existed in the prior art.'" Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc., 853 F.3d 1272, 1284 (Fed. Cir. 2017) (quoting Verve, LLC v. Crane Cams, Inc., 311 F.3d 1116, 1120 (Fed. Cir. 2002)). "[T]he dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from the prior art reference's teaching that every claim element was disclosed in that single reference." Dayco Prods., Inc. v. Total Containment, Inc., 329 F.3d 1358, 1368 (Fed. Cir. 2003) (internal quotation marks omitted). "Anticipation is an issue of fact, and the question whether a claim limitation is inherent in a prior art reference is a factual issue on which evidence may be introduced." In re Schreiber, 128 F.3d 1473, 1477 (Fed. Cir. 1997) (emphasis added) (citations omitted). Moreover, because an issued patent "is presumed valid," a party seeking to establish anticipation is required to prove its case by "clear and convincing evidence." Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc., 880 F.3d 1356, 1364 (Fed. Cir. 2018).

"To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or

inherently." Schreiber, 128 F.3d at 1477. Express anticipation, as its name suggests, occurs when a single prior art reference "disclose[s] each and every limitation of the claimed invention." Verizon Servs. Corp. v. Cox Fibernet Va., Inc., 602 F.3d 1325, 1336-37 (Fed. Cir. 2010). In contrast, inherent anticipation is established through demonstrating that "the prior art necessarily functions in accordance with, or includes, the [unstated] claim[] limitations." Leggett & Platt, Inc. v. VUTEk, Inc., 537 F.3d 1349, 1354 (Fed. Cir. 2008) (quoting Perricone v. Medicis Pharm. Corp., 432 F.3d 1368, 1376 (Fed. Cir. 2005)). "[I]nherency, like anticipation itself, requires a determination of the meaning of the prior art," and therefore may turn on evidence from "artisans of ordinary skill" reflecting their "understanding about subject matter disclosed by the prior art, including features inherent in the prior art." Schering Corp. v. Geneva Pharm., 339 F.3d 1373, 1377 (Fed. Cir. 2003). Importantly, the fact that a prior art reference has a previously "unrecognized" feature does not preclude an alleged infringer from demonstrating that such feature is nevertheless inherent in the prior art. Id. at 1377-78.

Here, after careful review of the parties' briefs and the case law cited therein, the Court finds that the conflicting expert opinions in this case create genuine disputes as to material facts regarding express and inherent anticipation. First, the Court agrees with K2M that disputed facts exist as to whether one or

more of the three prior art references at issue in this case expressly anticipate the '399 patent. K2M argues, as supported by citations to its expert's report and other record evidence, that all three prior art references expressly indicate not only that the prior art is designed to accept multiple different sized rods, but that the prior art patents' specifications, to include figures included therein, inform one skilled in the art that if rods of certain sizes were used in pictured embodiments, they would necessarily contact the curved or sloped base of the pressure element in two places without touching the bottom (as claimed in Claim 14 of the '399 patent). ECF No. 360, at 23-28; ECF No. 351-2, -4; ECF No. 367-4, at 381-402; ECF No. 367-5, at 426-30. Moreover, the prior art patent referred to as "Kim" not only expressly discusses an embodiment using "inclined surfaces at both inner sides" of the "compression bush . . . so as to be compressed by various sizes of a support bar," but explains that various sizes of bar are accommodated "due to the fact that" the pressure member has sloped slides, further identifying such sloped sides as an "advantage" to such embodiment. ECF No. 311-19, at 7, 12, 16-18. In fact, the "summary of the invention" section indicates that it is "an object of the present invention . . . to enable various sizes of support bars to be used." Id. at 6.

Second, even assuming that the factfinder interprets each of the prior art references as failing to "expressly" anticipate Claim

14 of the '399 patent, material disputes of fact clearly prevent a summary judgment ruling in Biedermann's favor as to inherent anticipation. See Schering, 339 F.3d at 1377 ("A prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic is necessarily present, or inherent, in the single anticipating reference."); see also 3 Annotated Patent Digest § 17:67 ("To fully protect the public knowledge, the law of anticipation does not require that a prior-art reference explicitly disclose information that is inevitably present based on the express disclosure of the reference."). Such conclusion is based on Biedermann's failure to establish that, after considering the prior art in conjunction with the evidence supplied through K2M's expert, a reasonable factfinder could not conclude that "artisans of ordinary skill" would interpret the claims and specification (including illustrations) of at least one of the identified prior art references as configured to necessarily accept at least two differently sized rods that do not contact the "bottom" of the pressure member, instead having "two lines" of contact along the sloped/curved inner sides. See Prima Tek II, L.L.C. v. Polypap, S.A.R.L., 412 F.3d 1284, 1290 (Fed. Cir. 2005) (noting that the prior art reference, including "[t]he drawings" itself showed that the disputed "crimping" was "inherent" in the prior art, a fact further illustrated by expert testimony); Hayward Indus., Inc. v.

Pentair Water Pool & Spa, Inc., 814 F. App'x 592, 596 (Fed. Cir. 2020) (unpublished) (explaining that the "full scope of the prior art reference's disclosure is considered" when analyzing anticipation). When facts and reasonable inferences are interpreted in K2M's favor, which is required when evaluating Biedermann's summary judgment motion, it would be reasonable for a jury to conclude that clear and convincing evidence demonstrates inherency based on, among other evidence, the fact that the Kim prior art reference: (1) indicates that accepting multiple sized support bars is an "object" of the invention; (2) discusses the inclined sides of the compression bush as an "advantage" of embodiments with that feature; (3) indicates that the inclined sides are what allows the pressure member to accommodate various sized support bars; and (4) appears to visually depict a rod inserted into the compression bush that, due to the angled sides, does not appear to contact the bottom.³⁵ See Finnigan Corp. v. Int'l Trade Comm'n, 180 F.3d 1354, 1365 (Fed. Cir. 1999) ("To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence . . . [which] must make clear that the missing descriptive matter is necessarily present in the

³⁵ "Farris" and "Hoffman," the other two prior art references discussed in the parties' briefs, are also interpreted by K2M's expert as inherently including the features required by Claim 14 of the '399 patent, although Kim appears to most directly link the feature/benefit of the sloped sides to the ability to accommodate rods of more than one size.

thing described in the reference, and that it would be so recognized by persons of ordinary skill." (emphasis added) (quoting Cont'l Can Co. USA v. Monsanto Co., 948 F.2d 1264, 1268 (Fed. Cir. 1991))). Based on the reasonable disputes among the parties' experts as to what the prior art reveals, this Court must allow the factfinder to weigh the evidence and determine whether the sloped/curved sides of the pressure members discussed and illustrated in the relevant prior art references necessarily require that at least two rods, within a defined range, would fit into the pressure member yet would not contact the bottom, thus having "two contact lines" with the base of the pressure member. Cf. In re Johannes, 566 F. App'x 923, 926 (Fed. Cir. 2014) (unpublished) (finding "that sufficient evidence exists for a reasonable mind to conclude" that the food drying method described in the prior art reference at issue "would necessarily blow liquid off a food product" even if the prior art "did not contemplate using its claimed method specifically for blowing surface liquid off" a food product).

Biedermann correctly asserts that inherency "may not be established through probabilities or possibilities." Persion Pharm. LLC v. Alvogen Malta Operations Ltd., 945 F.3d 1184, 1191 (Fed. Cir. 2019). However, to the extent that Biedermann emphasizes certain phrasing in the prior art characterizing the claimed device's ability to accept multiple sized rods as a mere

"capability" of some embodiments rather than a "necessary" requirement of the prior art, the Court does not find such argument persuasive "as a matter of law" in light of the standard applicable on summary judgment. See Hewlett-Packard Co. v. Mustek Sys., Inc., 340 F.3d 1314, 1324 n.6 (Fed. Cir. 2003) (explaining that the "anticipation analysis asks solely whether the prior art reference discloses and enables the claimed invention, and not how the prior art characterizes that disclosure or whether alternatives are also disclosed" (citing Celeritas Techs., Ltd. v. Rockwell Int'l Corp., 150 F.3d 1354, 1361 (Fed. Cir. 1998))). Because K2M's expert reasonably opines that the identified prior art, either through illustrations or written statements, describes a structure designed to seat multiple sized rods, a range of which would not touch the bottom, summary judgment is not appropriate. As stated by Biedermann's expert during his deposition, the Kim prior art reference "says what it says," to include that "[i]t is possible to accommodate various sizes of support bars," ECF No. 367-5, at 430, and as interpreted by K2M's expert, a skilled artisan would interpret Kim as necessarily conveying that some "range" of differently sized rods seated on the angled sides would not touch the bottom of the compression bush. See Persion Pharm. LLC, 945 F.3d at 1191 (explaining that while mere "possibilities" are not enough, "if the limitation is necessarily present, or is the natural result of the combination of elements explicitly disclosed

by the prior art," inherency will render the claimed limitation obvious) (internal quotation marks omitted); Perricone, 432 F.3d at 1377 ("In general, a limitation or the entire invention is inherent and in the public domain if it is the 'natural result flowing from' the explicit disclosure of the prior art." (quoting Schering, 339 F.3d at 1379)).³⁶ Because "the prior art at issue in this case shows what it shows and the jury [i]s free to draw whatever [reasonable] conclusions manifest[] themselves from the evidence [to be] presented" at trial, Bettcher Indus., Inc. v. Bunzl USA, Inc., 661 F.3d 629, 640 (Fed. Cir. 2011), Biedermann's summary judgment motion on this issue is **DENIED**.

3. Obviousness³⁷

Biedermann's final summary judgment claim asserts that K2M has "waived" an obviousness challenge to the '399 patent and

³⁶ It appears to the Court, based on the briefs now before it, that Claim 14's requirement that at least two rods of a certain undisclosed size would fit into the pressure member, yet not touch the bottom, may be subject to interpretation as only requiring that a range of rod sizes self-selected to fit into the pressure member without touching the bottom must, once inserted into the pressure member, not in fact touch the bottom. Claim 14 is thus at least capable of being interpreted as failing to claim a unique redesigned slope of the angled sides and/or shape of the depression at the bottom of the pressure member in order to prevent any sized rod that fits into the channel from contacting the bottom, but rather, may only require that by self-defining a "range" of rod sizes between an undisclosed "minimum" and an undisclosed "maximum" diameter, such rods will not contact the bottom. While this Court does not suggest that the proper interpretation of Claim 14 is circular in concept or that there should be a finding of inherency, whether the disputed features are "necessarily present" in light of the inclined/curved sides described and depicted in the prior art references is a question for the jury.

³⁷ Unlike anticipation, which requires an independent analysis of "a single prior art reference," an obviousness inquiry jointly considers multiple prior art references to determine whether "a skilled artisan would have been

therefore "cannot avoid summary judgment of no invalidity by asserting it has obviousness theories for claim 14." ECF No. 391, at 19.³⁸ Having already denied Biedermann's summary judgment motion on anticipation, the Court does not reach the procedural challenge to K2M's ability to advance an obviousness claim to avoid summary judgment. Such issue, which presents yet another dispute over adequate notification of claims/defenses, is addressed by the parties in cursory fashion and this Court lacks the necessary information to resolve such dispute. Whether K2M can advance an obviousness challenge to the '399 patent at trial remains subject to appropriate disposition through a pre-trial motion should the parties be unable to resolve this matter through discussions seeking to limit the number of claims and defenses to be advanced at trial.

V. CONCLUSION

For the reasons set forth above, each party's cross-motion for summary judgment is **GRANTED IN PART** and **DENIED IN PART**. ECF Nos. 290, 308. Within one week of the entry of this Opinion and Order, counsel are instructed to confer regarding scheduling a settlement conference, and counsel should thereafter contact this

motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so." CRFD Rsch., Inc. v. Matal, 876 F.3d 1330, 1338, 1340 (Fed. Cir. 2017).

³⁸ Biedermann's opening summary judgment brief focuses on anticipation, with K2M raising obviousness in an abbreviated paragraph on the final page of its opposition brief. See ECF No. 360, at 30.

Court's Magistrate Courtroom Deputies to schedule such conference on a date as soon as practicable.

The Clerk is **DIRECTED** to send a copy of this Opinion and Order to all counsel of record.

IT IS SO ORDERED.

/s/ 

Mark S. Davis
CHIEF UNITED STATES DISTRICT JUDGE

Norfolk, Virginia
March 25, 2021